THE OIL WEEKLY

ENGINEERING « NEWS » STATISTICS

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The Oil Man's Calendar

SEPT. 14–16	National Petroleum Association, Hotel Traymore, Atlantic City.
27 OCT. 2	American Association of Petroleum Geologists, Mid-Year Meeting, El Paso, Texas.
OCT. 6–7	American Institute of Mining & Metallurgical Engineers, Fall Meeting, Petroleum Division, San Antonio, Texas.
10–13	North American Gas Tax Conference, Tulsa, Oklahoma.
10–14	American Gas Association, Atlantic City, New Jersey.
10–14	National Safety Congress, Petroleum Section, Stevens Hotel, Chicago, Illinois.
12–13	Indiana Independent Petroleum Association, Hotel Severin, Indianapolis, Indiana.
18	National Stripper Well Association and Oklahoma Stripper Well Association, Annual Meetings, Tulsa, Oklahoma.
19–21	Independent Petroleum Association of America, Tulsa, Oklahoma.
20–21	American Institute of Mining & Metallurgical Engineers, Petroleum Division and Industrial Minerals Division, Los Angeles, California.
27–29	Annual Convention, Texas Division, Mid-Continent Oil & Gas Assn., San Antonio, Texas.
NOV. 3–4	American Association of Petroleum Geologists, Pacific Section, Los Angeles, California.
14–18	American Petroleum Institute, (Annual), Stevens Hotel, Chicago.
DEC.	Mid-Continent Oil & Gas Assn., Standing Tax Committees, Dallas, Texas.

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This Week's Panorama

THE oil industry's situation and outlook remain generally favorable, as operations at wells and refineries continue about in balance with market demand, while a similar equilibrium is in prospect through August, under the allowables prescribed for the month.

Crude Production Moderate

Crude oil output has continued in satisfactory relation to market requirements, having averaged 3,316,400 barrels daily in the week ended July 30, as against the Bureau of Mines estimate of market demand of 3,398,100 barrels a day for July. The production in the week of July 30 was slightly lower than in the previous week and 7.6 percent lower than in the corresponding week last year, although the industry a year ago was over-producing.

Refinery Runs Increase Further

The expansion of refinery operations which occurred under the increased allowables of July continued in the week ended July 30. Crude runs to stills were 60,000 barrels a day larger than in the previous week, having averaged 3,240,000 barrels a day. They were, however, 5.4 percent lower than in the corresponding week last year, when activity was greater than justified.

Crude Stocks Relatively Small

Crude oil stocks, near the lowest levels since the World War, have continued about unchanged, as lately increased production has been accompanied by the larger runs to refinery stills.

The crude oil stocks stood July 16 at 289,310,000 barrels, and at that time were nearly 6 percent smaller than one year previously.

So far, little fault can be found with the crude oil inventory situation, although some petroleum economists believe that further moderate withdrawals from storage would be economically sound and desirable, in view of the large potential production readily available from the country's wells, many of which are deeply restricted under proration.

Gasoline Situation Is Impaired

While the general picture remains relatively bright, it was marred in the final week of July by a set-back in the previously improving gasoline situation. For the first time since late March, gasoline inventories failed to come down in the week of July 30, having shown an unseasonal increase of about 500,000 barrels. This interruption of the needed withdrawals from excessive gasoline storage was due to the increased allowables of July and the resultant stepping up of refinery runs, and it demonstrated that the state conservation officials have increased allowables to the danger point.

In consequence of the failure to make any reduction during the week, the gasoline stocks of July 30 were 8.4 percent larger than those held one year previously. On July 23, in contrast, there had been a large weekly reduction of gasoline stocks, and the supply came within 6 percent of the previous year's curve.

Fuel Oil Stocks Rise Again

The more generous allowables of July and the accompanying increased refinery activity also has had an unfavorable effect on the fuel oil situation, having caused further substantial additions to already excessive stocks.

The fuel oil inventories increased over a million barrels more in the week ended July 30, having risen to 144,294,000 barrels. Those stocks now are exactly one-third higher than a year ago, when they totaled 108,209,000 barrels.

This large gain in fuel oil inventories has been unjustified, as demand has been running not higher but materially lower this year than last year. Indeed, it has been the lagging of fuel oil demand that has led to the unwarranted building up of stocks.

For the lighter fuel oils the situation is relatively better than for the heavier oils. For it is anticipated that heating of homes, factories, and other places next fall and winter will make large inroads into storage of the lighter oils, while the demand so far has held up relatively well.

On the other hand, the demand for the heavier fuel oils has decreased more sharply, as general industrial activity has been depressed, resulting in smaller fuel requirements in factories. However, the numerous signs of an impending general business recovery augur well for heavy fuel oil demand.

Another circumstance in connection with the fuel oil situation that has favorable implications is the probable good effect of large fuel stocks on refinery runs and gasoline production next fall and winter. In the latter portions of some recent years, fuel oil stocks have been relatively low, and fearing shortages, refiners have held operations at high levels, turning out large quantities of fuel oil but also necessarily making large quantities of gasoline. The low fuel oil inventories thus have led to excessive gasoline production and building up of excessive gasoline stocks, and conversely, the present large fuel oil

stocks promise to result in more moderate refinery runs and gasoline output in the coming fall and winter and a more stable gasoline market.

Allowable Less Strict for August

State allowables for August are fairly satisfactory, but probably would have been economically justified if they had been somewhat stricter. For they are not as strict as those of July, and the July allowables resulted in greater than desirable stepping up of refinery runs and the interruption of gasoline storage withdrawals in the latter part of the month.

This month, as in July, crude oil production, and presumably refinery runs also, will be crowding the limits of safety.

The six leading producing states, accounting for over 90 percent of United States production, have adopted August allowables 128,016 barrels, or 4.1 percent, below the indicated average daily market demand for domestic crude (from wells and storage) during the month, as estimated by the Bureau of Mines.

On its face, this allowable picture appears to indicate that the quotas will permit the taking of over 100,000 barrels of crude a day from storage. But the situation looks differently in the light of the fact that allowables are one thing and actual production another. In four of the six leading states, Oklahoma, Kansas, Louisiana, and New Mexico, production actually may be expected to conform closely with the allowables. The same is true of Texas production, but the allowable increases from day to day as new wells are completed, and actual production averages higher than the allowable at the beginning of the month. Finally, California regularly produces considerably more than the state allowable as set up in the producers' voluntary proration program. In recent weeks the state actually has been producing from 30,000 to 40,000 barrels a day more than the official proration allowable.

That curtailment results will be somewhat less successful for August than for July is indicated by a comparison of the allowables of the two months. Whereas the combined allowables of the six leading states for August are 128,016 barrels, or 4.1 percent, below the indicated daily requirements, those for July had been 143,283 barrels, or 4.7 percent, below expected needs.

Demand vs. Allowable

In this connection it should be kept in mind that the difference between the market demand figure set from month to month by the Bureau of Mines and the figures set by the several state bodies as the allowable for the month is in furtherance of the effort to reduce the excessive crude stocks. The bureau forecasts the demand and does not concern itself over the source—and does not recommend that the quantity stated should be produced. Lack of understanding on this point has been the basis of some unjust criticism when state bodies assign allowables less than the bureau figure.

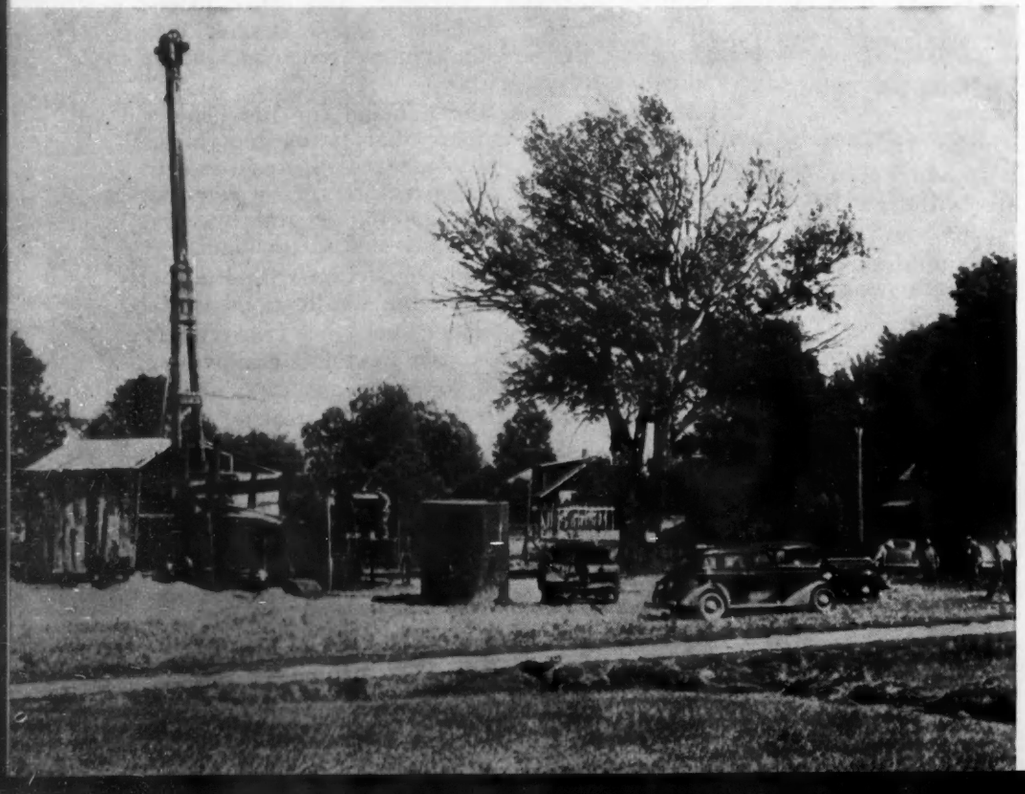
Soft Spots in Crude Market

Currently there are three particularly soft spots in the crude oil market: the K-M-A field of North Texas, the East Texas field, and Southern Oklahoma.

Pipe line proration hit K-M-A August 1 when The Texas Company reduced its purchases to not over 8000 barrels daily, or 56,000 barrels weekly. The company specified a cut of 25 percent below the allowable fixed by the Texas Railroad Commission. The company formerly was taking about 9300 barrels daily. (Late last week other buyers had not indicated they would follow suit.) The Texas Company plans to absorb additional wells awaiting pipe line connection with the slack obtained in cutting back its own and outside wells to 75 percent of the allowable.

The unfavorable market conditions in East Texas and Southern Oklahoma, discussed in these columns last week, have not shown any material improvement.

Prices of refined products have continued fairly steady at the levels that have prevailed for several weeks.



Drilling machines and spudders were at a premium in Michigan this week as operators rushed into the new shallow 1460-foot field opened in Overisel Township, Allegan County, with a 900-barrel initial discovery. Shattering all previous records for getting a boom started in Michigan, 14 machines or spudders were drilling this week—6 others were on location. With only a 100 to 140-foot string of 10-inch drive pipe and clear sailing to the top of the lime, contractors expected to set up and drill in within a 15-day maximum. Five of the original starts were to complete this week. This photo shows one of three spudders being used by the Gordon Oil Company, one of Michigan's top independents.

Interstate Compact Proving Valuable Aid to Industry

By L. J. LOGAN, Associate Editor

THE INTERSTATE OIL COMPACT, scheduled to expire next year, unless extended by Congress and the states, was further shown up a week ago as a constructive device, when the Compact Commission met at Colorado Springs.

The meeting helped to preserve cooperation among the oil producing states in balancing crude production with demand, and it furnished the industry valuable forecasts and advice, through the important papers that were presented.

* * *

Outlook Considered Good

Particularly interesting was the forecast of economic conditions in the industry for the next nine months, made by Joseph E. Pogue, vice president and economist of Chase National Bank, New York.

His forecast was pleasantly hopeful, although restrained. He pointed to signs of better times ahead, although concluding with the following admonition:

"Just as the industry was slow to revise its operating schedules downward as business receded and thus was compelled to make a compensating drastic slash at the eleventh hour, so it should not be too hasty in raising its operating levels in response to incipient indications of improvement in the trend of demand, lest too much momentum be acquired. After all, the excess production of the past year is not yet fully liquidated: stocks of motor fuel are still too high, fuel oil inventories are excessive, and the volume of crude oil in storage is greater than is needed as a working reserve. The presence of a large drilled supply of crude oil, coupled with ample refinery capacity, renders the industry particularly vulnerable to the pressure of surplus inventories."

Encouraging was the discussion by Pogue on the present outlook. "Now there are signs appearing," said he, "that the decline in business has run its course; it is probable that the low point of the depression has been passed; and evidence is accumulating to the effect that some improvement will be witnessed in the coming months."

This appraisal of the future was particularly cheering in view of the noteworthy accuracy of two earlier forecasts by Pogue during the past year, at meetings of the Interstate Oil Compact Commission. At the quarterly meeting of the commission in Houston in October, 1937, he pointed out that a considerable number of economic indexes had turned unfavorable and therefore the demand for oil was likely to be affected adversely in the months ahead. In the three quarters intervening since that time, a drastic business decline has taken place, carrying the Federal Reserve Board index of industrial production from 117 in the late summer of 1937 to 75 a month ago.

At the quarterly meeting of the commission in Wichita in April, 1938, Pogue expressed the opinion that a reversal in the business trend was likely before the end of the year.

Declining to take for granted the indicated impending business recovery, Pogue made two separate estimates of the probable demand for domestic crude oil for the next nine months: (1) on the assumption of a continuation of the current depressed levels of business activity, and (2) on the basis of such improvement as may logically be expected to take place in the event that there are no untoward developments to deflect the economic forces that now appear to be at work.

In estimating requirements for crude oil, Pogue indicated that motor-fuel stocks on March 31, 1939, should not be allowed to exceed 81,000,000 barrels in event of continued depressed business, or 83,000,000 barrels in event of improvement, although the actual level was 90,600,000 barrels March 31, 1938.

He further took the Federal Reserve index of industrial production as a guide in forecasting petroleum demand under the two assumptions, unchanged business conditions and improving conditions. That index probably stood around 76 in mid-July, he said, and under the first assumption would continue at that point. But under the second and preferred assumption, he suggested as logical a rise of the index to an average of 79 for the third quarter, 85 for the fourth quarter, and 90 for the first quarter of next year.

In tabular form, the Pogue paper presented figures showing that with no change in business, the demand for domestic crude oil would approximate 3,400,000 barrels daily in the third quarter of 1938, 3,315,000 barrels daily in the fourth quarter, and 3,245,000 barrels daily in the first quarter of next year. With business improvement as above estimated, these figures were increased to 3,450,000, 3,400,000, and 3,370,000 barrels daily, respectively, the pick-up in business partly neutralizing the normal seasonal decline. For the nine months involved, there was a difference of about 24,000,000 barrels of crude oil between the estimated demand under no recovery and that on the basis of recovery.

The table terminated with an assignment of the required domestic crude to two sources, from stocks and from domestic fields. Allowing for some desirable withdrawal of crude from storage, because of large underground potentials, it was estimated that field production, under the no recovery conditions, should be around 3,300,000 barrels a day in the third quarter of this year, 3,265,000 barrels daily in the fourth quarter, and 3,220,000 barrels daily in the

first quarter of next year. In the event of business recovery, however, the requirements from domestic fields were estimated at about 3,350,000 barrels daily over the next nine months.

* * *

Proration Flaws Cited

In their joint paper presented at the Interstate Oil Compact Commission meeting at Colorado Springs, Alexander Sachs and Joseph E. Pogue gave a valuable report on internal problems of proration in the conservation of oil.

In the beginning the authors paid tribute to the efficiency of the petroleum industry, declaring that the industry has provided products of steadily improving quality at declining costs.

They stated that the problems of proration arise from and center around the difficulty of producing oil efficiently from pools in which leases are owned by different operators, each of whom has the traditional legal right to oil that he captures. The ideal solution, they said, would be operation of all individual pools as units, and similarly, efficient operation is promoted by pool cooperatives, which should be encouraged through proration regulations.

As applied now, the Sachs-Pogue paper stated, proration is characterized by several especially undesirable tendencies and developments, as follows: (1) A tendency toward inadequate communication of flexibility within the whole structure of prices, though significantly enough, the final product prices under proration have been not only flexible but below parity with the all-commodity price level; (2) a disposition toward the development of inter-industry pressures; (3) a trend toward interregional inequities in production allowables involving excessive burdens of areas that conform to quotas; (4) a drift toward the long-term danger of lowered financial productivity as a consequence of unnecessary wells; (5) incomplete attainment of optimum utilization of reservoir energy in the production of oil.

In connection with prices, the authors said that the ultimate consumers have had and still have the full benefit of price flexibility, but that the industry should appreciate the need for constant flexibility of prices within its internal price structure. "Proration may legitimately be expected to exert a smoothing effect upon prices," the authors said, "but price adjustments should be utilized as usual where and when needed to preserve balance." Failure to make such adjustments, they said, might promote overstimulus of supply, adverse effect on demand, and destructive effects on profits.

The disturbing inter-industry pressures referred to were the internal maladjustments and disparities in production control, leading to unequal effects on different branches of the business. These difficulties arise chiefly, it was stated, from improper gauging of demand and undesirable accumulation of inventories at various points in the industry's structure. The remedy suggested was the use of "consumer demand" instead of "buyer demand" as the criterion of production requirements, plus constant observation of fluctuations in inventories, as a check on estimates of consumer demand.

Regarding the third special problem in proration, that involving interregional inequities, the paper conceded that the answer was not clear, and said that there is need for greater study of the problem by proration administrators and patience in working out economic solutions.

The fourth problem, unnecessary drilling and the resultant reduced return on invested capital, was described as possibly the most serious flaw in the application of proration. Chiefly responsible for over-drilling, it was asserted, has been the use of the well as the basic unit of proration. The authors recommended that the well as the unit of proration should be immediately abandoned and that there should be substituted in its place an allocation formula based on the indicated potential production of a lease with due allowance for its acreage, for example, "average potential per well per 40-acre unit." Such a basis, it was asserted, would sharply reduce the incentives which lead to overdrilling and would serve as a transition ultimately to a more scientific formula involving consideration of the character of the reservoir, the particular set of physical laws governing the production of its fluid contents, and the operating practices employed.

Concerning the final mentioned problem, incomplete use of reservoir energy, the paper said that further progress is possible if the available engineering talent is utilized.

* * *

Purchaser Proration Opposed

The executive committee of the Independent Petroleum Association of America met at Colorado Springs in conjunction with the Interstate Oil Compact Commission meeting, and it authorized a statement which was cheerful but which pointed out various difficulties in the industry. The committee expressed gratification over substantial reductions in stocks of crude oil and gasoline, but expressed concern over increased inventories of heavy fuel oils, which have now reached the highest point in the history of the industry. Those large fuel oil stocks should, however, eliminate the necessity for excessive refinery operations through the winter months, it was stated.

The I. P. A. A. statement brought up an important problem in discussing present instances of curtailment of purchases by pipe line companies. The statement referred to inequitable purchases where the ratable taking of petroleum from properties within the same pool has been violated and to reported discrimination in purchases from different pools within the same state.

The warning was given to purchasers and state officials that such inequalities normally lead to distress conditions in marketing crude and to attendant overproduction by the producers suffering curtailed markets.

The I. P. A. A. committee further declared that proration must begin with the flush producing areas and that the wells of small and settled production should not be made the subject of proration, lest they be forced prematurely into abandonment.

The committee urged that the purchasers and the state conservation authorities cooperate in preventing inequalities between producers and pools.

The I. P. A. A. executive committee urged oil state officials to oppose the proposal of the Secretary of State to enter into reciprocal trade agreements with oil producing countries that might increase the supply of petroleum available for domestic markets, declaring excise taxes on oil imports are needed to assure success of domestic curtailment efforts and to maintain American standards of living among oil industry workers.

The I. P. A. A. committee praised the Interstate Oil Compact, recommended its renewal upon expiration next year, and advocated its enlargement and strengthening through provisions authorizing the body to make allocations of market demand among states and to consider market demand as well as physical waste. The committee also recommended that other oil states be urged to become members along with the present six member states.

Western Kansas Expansion Continues

Discovery of 14 new fields so far this year sends state's potential to its highest level in history and maintains drilling activity at a brisk pace

By FRANK B. TAYLOR, Staff Writer

CONTINUING its steady pace of development with only a slight decrease in total activity, Western Kansas remains the hot-spot of the northern Mid-Continent district. Field potentials have gained steadily through extensive drilling so that the state now has the highest potential of its history—3,500,000 barrels. The June 20 Conservation Department report showed a 30-day gain of 86,000 to 3,409,528 barrels, which expresses the trend.

New fields continue to be discovered in Western Kansas. Since the first of 1938 there have been 14 new fields found, and since publication of THE OIL WEEKLY's "Western Kansas Number" on May 3, 1937, there have been 41 discoveries.

Western Kansas Discoveries for First Half 1938

Name	Operator and Well	Location	Formation	Potential (Barrels)
Buhler	Amerada Petroleum Corp. and Westgate-Greenland's John's 1	SEc 25-22-5w	Wilcox Sand	912
Bonham	National Refining Co.'s Bonham 1	SW SE 28-25-12	Arbuckle	330
Leesburgh	Continental Oil Co.'s Fair 1	CNL SW 12-25-13	Arbuckle	853
Sittner South	Stanolind Oil & Gas Co.'s Siefkes 1	NE SE NE 3-22-12	Arbuckle	2,221
Fischer	Cardinal Oil Co.'s Fischer 1	SW NW SW 31-21-12	Arbuckle	783
Burnett South	Duwe & Farris' Hadley 1	SE NE SE 12-11-18	Arbuckle	1,266
Schroeder	Cities Service Oil Co.'s Schroeder 1	CNL NW 29-17-9	Arbuckle	2,644
Richards	Duwe & Farris' Richards 1	SE SW NW 5-11-18	Kansas City Lansing	941
Linsborg	Carter Oil Co.'s Hoglund 1	CWL SW NW 8-17-3	Viola	345
Hoisington	Thayer Drilling Co.'s Soderstrom 1	SE NW 21-17-13	Kansas City Lansing	1,065
Morel	Continental Oil Co.'s Morel 1	CWL E½ NE 5-9-21	Arbuckle	2,105
Greenvale	Jones & Shelbourne's Kuhnle 1	SE NW 4-15-12	Kansas City Lansing	945
Ellinwood, West	Crown Petroleum Co.'s Schartz 1	SW SE NW 7-20-11	Arbuckle	413
Nunn	Atlantic Refining Co.'s Nunn 1	CSE NE 27-21-34	Mississippi	604

(Two sand pools were opened in Eastern Kansas during first half of 1938.)

Western Kansas now has 204 fields, of which 154 are prorated. Since there were 163 fields listed in the May 3, 1937, issue there is an apparent error in these figures of 9, but this is due to the combining of this many fields with other producing areas. In other words 9 fields, as shown in an accompanying table, have been combined with other fields.

For the first six months of 1938, Kansas activity accounted for 1185 wells completed. Of these, 908 were producers with a total initial production of 702,134 barrels. Forty completions were for gas, being chiefly in the Hugoton area of extreme southwest Kansas to augment gas transmission line supply. This total, together with the 100 wells completed in Hugoton during 1937, bring the southwestern Kansas gas development to a level unequaled since 1930. Pressures encountered in the wells drilled further substantiate the contention that the area is a single gas field, as yet only sparsely developed. A total open-flow potential of 563,000,000 cubic feet was established for the gas completions the first six months of this year.

There were 237 failures in Kansas during the first six months of 1938. This is in a ratio of 5.2 producers to one failure. In Western Kansas there are now between 175 and 190 active tests. Wildcats vary from 40 to 80, and exceed 100 for the state as a whole.

During the first quarter of 1938, and considering Western Kansas

alone, there were 454 completions. Of these, 79 were wildcats. During the second quarter just completed, there were 484 completions, 84 being wildcats. As a comparison there were 499 completions during the first quarter of 1937, showing the relatively slight drop in total completions now as compared with a year ago. An interesting feature is in the number of wildcats recently completed as compared with a similar period one year ago. This shows that in 1938 there have been 79 wildcats drilled as compared with only 71 in the 1937 period. This, coupled with the drop in total completions, points definitely to the conclusion that the drop in activity has been in the development of proven areas rather than exploration.

In looking over the 1937 wildcat list of completions, certain facts not immediately apparent, are actually of vital importance to the whole picture. Comparisons of recent tabulations show that the 223 wildcats drilled during the year (excluding all abandoned wildcat locations) made a grand total of 756,189 feet of hole. Of the 223, 40 wells were by majors, 38 were farmouts. Out of the 223, 29 were pool openers, 194 being failures. Of the latter figure, 176 were carried to the Arbuckle lime prior to abandonment. Over most of Western Kansas if the Arbuckle is dry, the location is condemned as there is usually but slight chance of production between the Arbuckle and the top of the granite.

There were 136 wildcat locations made in Western Kansas purely on chance, or at random. Of these 10 were productive, the remainder being failures. The balance of the wildcats were located with the aid of geology, geophysics, or both; or by some scientific means. Of this number, 87, there were 19 producers. Turning this into percentage shows that only 7.2 percent of the wells drilled on chance were successful but that 22.9 percent of those located as a result of science were productive.

Where Exploration Is Going

True to previous predictions, the wildcat trend has been developing away from the Central Kansas Uplift into the Basin areas on each side. Northeast of the arch there have been a number of important locations made in and around the edges of the Salina Basin. To date developments from these wells have not been very encouraging but only three of the prospective tests have drilled to depths that might be considered conclusive. If these wells are continued down their correlation should present geologic pictures far more enlightening than those now available.

In the area there has been some recent activity on the part of crews shooting the more likely sections. Favorable structural conditions have been located and leased, but as the leases are of recent record, the findings may not be tested for some time to come. The Basin area has not been enticing to operators since four rather prominent structural highs were proven dry some years ago. Subsurface formations of the Basin are not definitely established although they are expected to compare with sections drilled on the northeast flank of the Uplift. Strata above the Mississippian may be somewhat changed, particularly along the east side of the Basin where they could have been influenced by the rising Nemaha Ridge which first manifested its occurrence late in the Mississippian. On wells drilled just north of the Uplift, in Rice County some Wilcox sand section was cut. As the pay carried free mud and water, it could not be produced. In the same area, Viola lime and Simpson sands could produce in addition to the regular pays found on the Uplift itself.

Activity on the southwest flank of the Uplift has been far more pronounced with 12 of the 43 discoveries of the last 18 months being made in this area. This is 28 percent of the total.

The swing of interest into this area is through a combination of reasons. First, in outlining the subsurface contours of the area in the immediate vicinity of the Uplift, it became apparent that the southwest flank was broken by a major nosing into Barton, Stafford and Reno counties. This feature was explored by core drill, geology and geophysics with the result that a number of wildcat locations were made.

To the first of July, this year, the nosing from the Uplift has accounted for seven new and important pools. Some of these are Zenith, producing from Misener sand, and Bonham, Fischer, Leesburg and Schroeder, each producing from Arbuckle lime. A total of 17 pools are thought to be controlled by the nosing. The most southwest of these is the Iuka pool, in northern Pratt County.

Farther off the Central Kansas Uplift, the strata dip into the Dodge City Basin, the northern equivalent of Oklahoma's Anadarko Basin. This area was avoided for some time through lack of surface reflection of subsurface structure, and also through a question as to reasonable drilling depth. Progressive wildcat-

Development Combined the Following Areas of Production

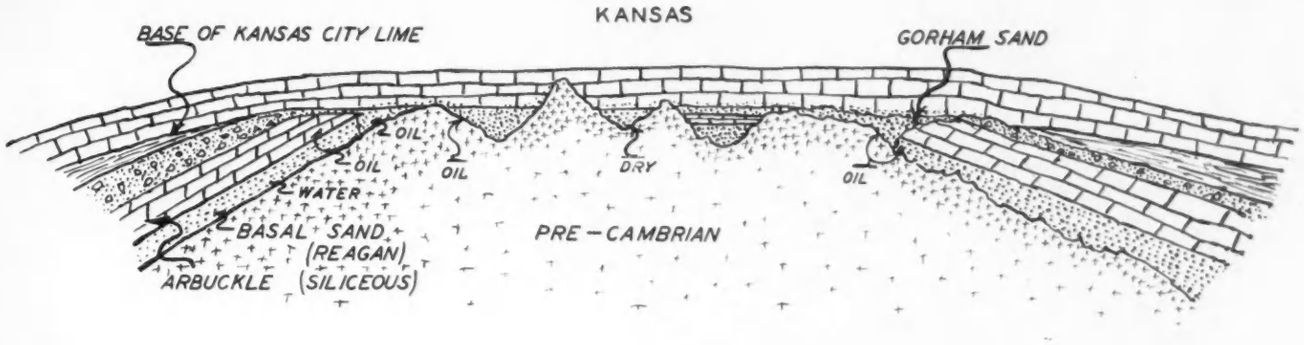
Pool	Combined with
Cramm	Gorham
Centre	Chase
Shartz	Silica
Rude	Eichman
Ochs	Trapp
Breford, South	Breford
Milberger	Gorham
Berrick	Hall
Hall, North	Hall

Note: The names in the first column have been dropped from Kansas nomenclature.

A List of New Pools Discovered in Western Kansas During 1937

Note: (With extensions first considered as new fields, being included with their proper producing area)

	FIELD	County	Total Depth	Location
1	Ainsworth South	Barton	3352	Sec. 10, T.17S, R.13W
2	Allon	Russell	3055	Sec. 21, T.14S, R.14W
3	Anness	Sumner	4401	Sec. 2, T.30S, R.4W
4	Bornholdt	McPherson	3333	Sec. 30, T.20S, R.5W
5	Beaver North	Barton	3326	Sec. 4, T.16S, R.12W
6	Blue Hill	Ellis	3371	Secs. 11 & 14, T.12S, R.16W
7	Bredfeldt	Rice	3245	Sec. 7, T.18S, R.9W
8	Burnett	Ellis	3574	Sec. 1, T.11S, R.18W
9	Cramm	Rice	2950	Secs. 15 & 22, T.19S, R.9W
10	Cress	Ellis	3302	Secs. 7 & 18, T.11S, R.16W Secs. 12 & 13, T.11S, R.17W
11	Drach	Stafford	3705	Sec. 12, T.22S, R.13W
12	Ellinwood North	Barton	3350	Secs. 32 & 33, T.19S, R.11W
13	Emmeram	Ellis	3267	Sec. 4, T.13S, R.16W
14	Hall North	Russell	3180	Sec. 20, T.14S, R.13W
15	Iuka	Pratt	4437	Sec. 11, T.27S, R.13W
16	Koblitz	Ellis	3697	Sec. 23, T.12S, R.18W
17	Kraft	Barton	3288	Secs. 3, 10, 11 & 14, T.17S, R.11W
18	Lake City	Barber	4437	Sec. 7, T.31S, R.13W
19	Medicine Lodge	Barber	4847	Sec. 15, T.33S, R.13W
20	Nickerson	Reno	3440	Sec. 4, T.22S, R.7W
21	Nyra	Rooks	3304	Sec. 9, T.9S, R.17W
22	Sittner	Stafford	3412	Secs. 33 & 34, T.21S, R.12W
23	Sterling	Rice	3401	Sec. 4, T.22S, R.8W
24	Trapp Southwest	Barton	3296	SW¼ Sec. 1, T.16S, R.14W
25	Vaughn	Russell	3034	Sec. 17, 18, 19 & 20, T.14S, R.14W
26	Welch North	Rice	3366	Secs. 22 & 23, T.20S, R.6W
27	Wherry East	Rice	3469	Sec. 7, T.21S, R.6W Secs. 12 & 13, T.21S, R.7W
28	Zenith	Stafford	3807	Sec. 23, T.24S, R.11W
29	Stockton	Rooks	3580	Secs. 26 & 35, T.7S, R.17W



Generalized cross-section of the Gorham field, Russell County, Kansas.

ting into the Basin proved drilling depths entirely normal, with the dip into the south a gradual one. Very few locations were made far out into the area, the first important one being the Olson and Watchorn's Morrison discovery which produced from Viola lime at 6480 feet. Although production did not stand up as well as was to be expected, the finding of production in this horizon in that area of the state opened a vast area to prospecting.

As an outcome of the development following the Morrison discovery, Sinclair Prairie Oil Company shot a high in Ford County about 25 miles due north of Morrison. The well, Young 1, C SL NE 34-27-21w, was carried to 5930 feet in Arbuckle lime. The well was dry at total depth and was plugged back successively to test upper shows. The Wilcox sand was definitely identified, and although it carried some oil, it could not be made to produce. At a plug back depth of 5025 feet with casing at 4886 to test Mississippi lime topped at 4890 feet the well was given a stage treatment with 10,000 gallons of acid.

After acid the wildcat flowed about 10 barrels crude, 20 barrels of salt water and mud, and made 10,000,000 cubic feet of gas. This finding offers increased encouragement to wildcatting the Basin.

A wildcat completion in July of this year brought in the farthest west production in Kansas when it made 167 barrels, a potential of 604 barrels from 4658 feet in Mississippi lime after 6000 gallons of acid. The well is Atlantic Refining Company's Nunn 1, NE SE NE 27-21-34w, northwest Finney County. Nearest production is in Shallow Water pool of Scott County, 10 miles northeast. The similarity of this production with that found in Ness County and on the Uplift advances a previous conjecture that the formations found productive on the Uplift will likewise produce in the north section of the Basin, given sufficient structural closure.

Two Wilcox tests in the south part of the state found fair saturation. The first of these, S. A. Murphy et al's Tate 1, SEc NW 32-31-2e, Sumner County, was completed for a small commercial well from the sand between 3696 and 3736 feet. The other failed to find as much oil but was more important by reason of its location. The latter well is Pryor & Lockhart's Gant 1, NEc 18-31-13w, Barber County. Although only a thin section of the pay was cut, the find is considered significant.

There has not been very much active exploration along the hypothetical extension of the Uplift. This is partly due to lack of outlet even if new fields are opened, and partly to previous failures in the area. Despite the lack of effort in this direction, a new pool directly on trend and a northwest outpost, was opened at Continental Oil Company's Morel 1, C WL E½ NE 5-9-21w, Graham County, which produced 2105 barrels from Arbuckle on potential test.

Aside from actual drilling, there has been a vast amount of surface work, core drilling, seismograph, and other geophysical methods employed in Western Kansas in the past 18 months. This work has followed a general path parallel to the southwest flank of the Arch, trending into the northwest counties. This work is responsible for the major lease play of the past 10 or 12 months, which included sections of Sherman, Wallace, Logan, Thomas and Sheridan counties. Both surface and instrumental surveys are also being widely used to check acreage held under high rentals, or to locate the most favorable spot for testing a held block.

A number of the wildcat wells drilled in the past 18 months were on particularly favorable blocks that were close to the expiration date. The same condition exists at this time, and will account for many locations on the most likely lease blocks within the next 18 months. The area chiefly affected by this condition embraces parts of Pawnee, Pratt, Ellis, Stafford and Barton counties. Much of the 1939 acreage in this area cannot be renewed. The least desirable will be allowed to expire.

Field Development

Although in general Western Kansas fields discovered within recent years are not being developed to maximum density, there are important exceptions. The major strikes: Bemis, Trapp, Zenith, Wherry, Silica, Stumps, Bloomer, Gorham, Shutts and Breford, have received the lion's share of development drilling. As of July 1, these fields were producing from the following number of wells: Bemis, 193; Bloomer, 77; Breford, 17; Gorham, 152; Shutts, 20; Silica, 504; Stumps, 36; Trapp, 307; Wherry, 161; Zenith, 48; for a total of 1515 wells.

This total, compared with the May, 1937, total on the same pools, accurately shows the extent of development in the relatively new discoveries. The comparison is 564 in May, 1937, as compared with the present 1515. This increase in wells is near 300 percent. Other fields than those mentioned are producing from 100 or more wells but for the most part their development was prior to the past two years.

The somewhat retarded drilling-up of proven acreage is not reflected in the state potential, which is constantly mounting, or in the production of the state, which is held to approximately 78 percent of what it was 18 months ago. The decreased production is due to a lessened market reflected in pipe line takes, and in proration holding production to an average below 30 barrels per well. Kansas is now producing from slightly less than six percent of United States' wells. Recorded production went to the 938,300,000 barrels mark when the figures for the first half of this year were tabulated. On the basis of present production

Bemis pool, a recent development and one of the most prolific finds in Western Kansas. Production here is accompanied by considerable water with the result that most of the crude is treated. View is from the north edge of production looking south across the breaks.

the state will pass the recorded billion barrel mark near the end of the first half of 1939.

Relatively few of the prorated fields of the western half of the state have been completely defined through intensive drilling. There are many pools in which tests to strata lower than those now producing might well open new horizons. So far this year there have been 14 important extensions to proven fields. Such extensions add more undrilled acreage to proven areas than does the average wildcat location.

Some of the larger companies recently have started development work on tracts within proven acreage to add to their Kansas reserves. Indian Territory Illuminating Oil Company has contracted for 15 wells in Barton, Rice and Ellsworth counties. Shell Petroleum Corporation will in all probability drill 40 wells in South Trapp, some contracts having been let before the end of the first half. A number of other companies have scattered development plans outlined.

By far the biggest share of drilling in Kansas is with rotary equipment. This is true of the wildcats as well as the field wells. If water was more uniformly available throughout the western sector, the percentage of rotaries would be even greater than it is now.

Fuel for development is a problem in some areas. It is generally true that very little gas accompanies crude production in Kansas. For this reason, a number of rigs are using liquid butane, while others are using fuel oils. Wildcat wells in particular must depend upon a transported power.

Pipe Line Picture

Activity in Western Kansas has been retarded by lack of pipe line outlet for newly opened production. Eighteen pools have no outlet. Others must depend upon local refineries, or irregular demand. Pipe lines into the area transport Kansas crude into the middle East. With swift market, the lines quickly connected new production; but with the present general slump the pipe lines have no incentive to increase their take and as a consequence the extension of pipe line facilities into new areas is at a minimum.

This has reacted to the disadvantage of many operators of the area just as similar conditions have adversely affected the industry elsewhere. There does not appear to be immediate relief in prospect. Crude readily available even under normal proration overbalances the demand. Considering the factors involved, it is only natural that pipe line construction to extend existing systems was very light during the past 18 months. There has been some repair and maintenance work on major arteries through the eastern section. Sinclair Refining Company, pipe line department, and Great Lakes Pipe Line Company have each reconditioned considerable line. New construction has been limited entirely to minor projects. Gas pipe lines traversing the western sector have remained generally quiet. Two desulphurization plants, one of which handles sour gas in Otis field, and the other sour gas from the Lyons field, are new units in the western sector.

Reserves

Kansas closed the year with a reserve for the western half of the state estimated as being just over the 300,000,000 mark. During the first of the year to July 1, that reserve has been increased by new pools, new pay strata and extensions to something over 325,000,000 barrels.

Of this reserve, about 80 percent is in lime, the balance being chiefly sand with a minor percent of conglomerate in the more easterly fields. Gravity varies from a low of about 28 degrees to 44 degrees. The crude is predominatingly paraffin in base, with traces or more of sulphur usually present.

Water drive through the lime accounts for most of the available energy, with gas in solution chiefly occurring in Mississippi Chat, Hunton, Reagan and Misener sand. Very little Kansas production is flowing. Pumping units are customarily of the individual well type, with some central power installations in settled areas. Wells are prorated upon the basis of a composite decline curve, which in turn is based upon an assumed average well decline from production curves obtained in a number of fields. The position upon the curve occupied by a particular well is determined by a physical pumping (or flowing) test of eight hours, divided into two four-hour periods.

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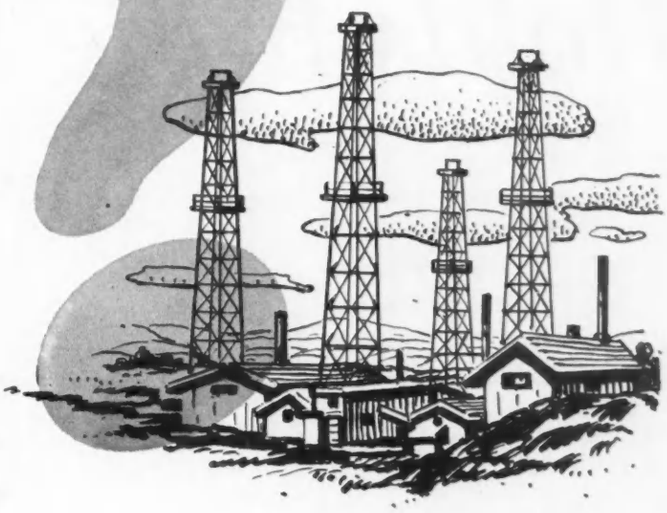

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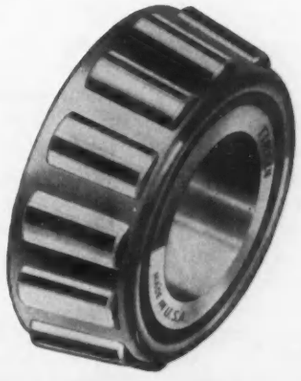

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Small Hole Drilling Holds Wide Possibilities

By BRAD MILLS and FRANK B. TAYLOR
Staff Writers

SMALL exploratory and development holes are being drilled successfully in several districts, with the range of operations extending from deep wildcat tests to actual completions in shallow territory. The practice is an extreme adaptation or continuation of a 10-year trend toward drilling smaller holes in all parts of the country.

Ordinarily referred to as "small hole," "slim hole" or "deep core hole" drilling, this new phase of development work holds wide possibilities. Both time and cost factors are affected favorably by small-hole drilling, but the practice has definite limitations at the same time. The rapid drilling of very small holes probably will not affect conventional drilling operations in the average deep producing field, but will find its place as an excellent exploratory medium ahead of intensive field development.

This, the first of a series of two articles on the subject, discusses the economical and geological angles of small-hole drilling. The second part will describe advancements in machinery that have gained popularity for slim-hole drilling.

THE excessive cost of wildcat drilling has been a sore spot with operators for 40 years. The cost of drilling the discovery well in most American fields has been from 50 to 200 percent more than that of the average subsequent wells. The heavy outlay occasioned by the drilling of unsuccessful wildcats has retarded exploratory work in every district. The heaviest and most expensive equipment has been the favored wildcatting medium in deep producing districts for a generation, but operators have for years realized the need for less expensive exploratory methods where there was no assurance of production. Light equipment has been regarded as unsafe for use in high pressure areas, but positive well control is now possible with the intermediate weight equipment available for small-hole drilling.

The primary objective in small-hole drilling is the reduction of costs. Obviously, it is less expensive to drill a small hole than a large one, since both the time and cost factors favor the small hole. Four times as much formation is removed in drilling a 12-inch hole as in drilling a 6-inch hole, not to mention the larger drilling medium required with the former. The average cost of small, rapidly drilled holes has been less than half that of the large wildcat holes drilled in a given area, but it should be considered that most of the first small-hole tests were purely exploratory wells that were drilled in an experimental manner.

Effectiveness is another important consideration in drilling small holes for exploratory purposes. The reduced hole must yield necessary geological information, and should stand as a definite correlating medium of formations opened.

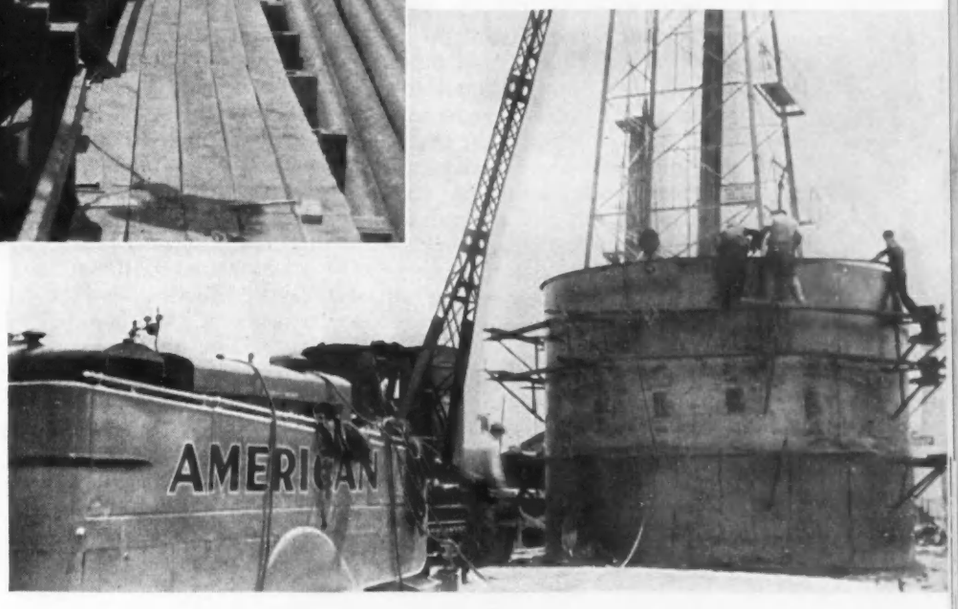
It is significant to note a trend toward drilling a type of small exploratory hole that can be completed as a producer, should an oil sand be encountered. Although started primarily as an exploratory medium, this type of small hole now uses drilling and control equipment that gives full measures of safety. In some of the small-hole drilling operations may be seen a trend toward heavier equipment than was used 12 months ago.

Several factors enter into the cost phase of "slim hole" drilling. A small, rapidly drilled hole giving the necessary geological information is as effective as a much larger hole, although the cost of the latter is greater. The larger hole is potentially a more important test, however, and might offset its greater cost by becoming a discovery well. The small exploratory holes are drilled primarily to establish markers and structural tendencies, and often are stopped short of depths at which production is expected.

The cost per foot for small-hole drilling ranges from $1.00 in the most favorable instances to around $2.50 in the less favorable districts. In several deep producing areas the cost of small exploratory holes has been about half that of standard drilling operations. This average is fairly consistent along the Gulf Coast, in the Mid-Continent and in parts of West Texas.

A major Gulf Coast operator, active in slim-hole drilling, has been able to obtain valuable geological data through a large number of rapidly drilled exploratory tests. The theoretical maximum depth for this original small-hole program was 5500 feet, and seven wells were drilled to an average depth of 5000 feet. The first test cost about $2.00 per foot, but the six small holes subsequently drilled cost only $1.50 per foot. In some cases this company

At left: One of five 10-inch gas lines for Mississippi River crossing. Joints are butt welds made by stove pipe method with Lincoln "Shield-Arc" Welders and "Fleetweld 5" Electrodes. River clamps are used. Courtesy of H. C. Price Co., Bartlesville, Okla.



At right: Erecting one of a battery of storage tanks in the California field. They are completely field-welded by Lincoln "Shield-Arc" Welders and "Fleetweld 5" Electrodes. Courtesy American Pipe & Steel Corp., Alhambra, California.

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used large pipe, and the wells were not considered deep core holes. Where rentals exceed the cost of this type of operation, the company regards the test as a regular drilling well.

Some Deep Holes Drilled

Small-hole drilling is being used to advantage along the entire Gulf Coast. A well was drilled recently to 6500 feet in Liberty County, Texas; a 5600-foot test in Waller County; 6500-foot wells in Jefferson and Hardin counties; and a 7500-foot series of tests in Wharton County. All these wells were drilled in a much shorter time than would have been required with conventional rotary drilling outfits, and the cost averaged less than half that of the regular drilling methods. They were purely exploratory holes, however, and were not expected to affect standard drilling at subsequent dates.

It has been the practice to start a 9⅝-inch hole, run 7-inch casing to about 1000 feet, and continue to bottom with a 6⅛-inch hole. Samples are caught every 30 feet, and after drilling is completed an electrical logging device is run, and side-wall cores taken at questionable levels. The cost of drilling 6000-foot tests has not been above $12,000 in several districts, but depreciation methods and cost accounting practices are not uniform with the various companies. A cost of $2.00 per foot is a fair average.

A few Gulf Coast companies have been slow to participate in the small-hole drilling program, because of the hazards attached to such operations. The lower portion of the hole is limited to 4½-inch casing, high gas pressure has been feared, and the Texas Railroad Commission prohibits completion of such tests as producing wells where they do not have permits for other than this type of development. Most of this objection has been overcome by the recent use of equipment that will control any pressures encountered.

The small-hole type of exploration offers several advantages. It is possible by this method to test Class "B," or second-rate prospects at about 50 percent of the cost of a standard well, and thus determine beforehand the producing possibilities of acreage under the farm-out classification.

One company recently purchased a small-hole drilling outfit at a cost of about $75,000, for use along the Gulf Coast. The practice of this company is to cement 7⅝-inch casing at about 2000 feet, and to continue to bottom with a 6¾-inch hole. It is possible to produce wells of this type, and should an oil sand be encountered, a string of 4¾-inch casing would be run and cemented in the usual manner. Well control with light equipment of this type is as positive as with heavier types, the company has pointed out. One well has been drilled to 6700 feet, and a depth of 9000 feet is possible.

Cheaper to Drill

Small-hole drilling was inaugurated as a less expensive method of testing structures indicated by geophysics and geological effort. Where production is indicated at 9000 feet, and a good marker should be found at 6000 feet, the series of small holes are drilled only to the 6000-foot marker. In this manner the upper formation yields the necessary preliminary information ahead of actual drilling operations. The deeper holes are an extreme continuation of the old practice to drill or core to shallow depths in an effort to define a structure. The deeper markers offer a much more dependable source of information than the shallower formations, and deep exploratory tests have mostly given good results.

California has been slow to recognize the advantages offered by slim-hole drilling, but there are good reasons for the lack of enthusiasm. Plans are now under way to start an experimental series of small-hole tests in the San Joaquin Valley, where the producing formations are very deep. Formations in California are much harder than those along the Gulf Coast, and deep and rapid drilling with light equipment has not been possible. Diamond core drills and the more rugged types of portable rotary equipment are being considered by a few operators. The deepest core holes drilled in the past have been stopped at from 1000 to 1100 feet in the San Joaquin Valley and Santa Maria area.

Markers in California are very poor in the upper formations, and shallow coring has not been of much value. Plans for drilling less expensive exploratory holes have been considered, but because of the excessive depth of new California fields the use of heavy drilling outfits seems more appropriate. In some parts of the San Joaquin Valley, small-hole exploratory tests could be drilled to advantage at such depths as would give geological data without danger from blowouts.

In Kansas, Oklahoma and West Texas, small-hole drilling has been a combination of exploratory and development efforts. Many of these small holes have been drilled as ordinary wildcat tests of unproved areas, but were capable of falling into the producing classification. The producing depths in these states is less than along the Gulf Coast, while formations are harder and more expensive to drill. A different type of exploratory hole must be drilled to meet local conditions.

The tendency toward deeper "core drilling" has been pronounced in the various Kansas, Oklahoma and West Texas districts. Most of these tests have been advanced types of exploratory holes, and differ from the old type of core hole. They have been drilled largely with portable rotary outfits.

In South Texas, one concern drilled a small, deep hole in Hidalgo County that gave valuable geological data. The hole was drilled in a short time through the soft shales and sands to about 6000 feet, an electrical logging device run, and the hole abandoned. The cost per foot was reported to have been less than $2.00 per foot.

In Bee County, Texas, a major oil company recently inaugurated a method of working structure. The small holes were drilled to depths between 1000 and 2500 feet, and some were drilled in a few hours. While the walls of the holes were raw, an electrical logging device was run and valuable correlative data were obtained. In holes of this type, no coring was done.

Continuous coring operations have given good results in several producing districts, and some of the larger operators hold to the claim that the recovered core gives the best geological data that can be obtained. Continuous coring is much slower than ordinary drilling, but a top-to-bottom core recovery gives an unsurpassed formation record. Coring at regular intervals, or where cuttings indicate a need for it, also serves a good purpose where actual recovery is required or desired. Operators in every district recognize the value of core recovery, but the greater speed achieved with conventional drilling methods usually limits coring operations.

The original small-hole or slim-hole drilling was the shallow core tests. These were followed by deeper core holes to test more representative markers. Some of the first deep small-hole tests depended largely upon coring operations for their geological data. All of the heavy small-hole drilling outfits now in use are equipped to take cores.

Many of the conventional "core

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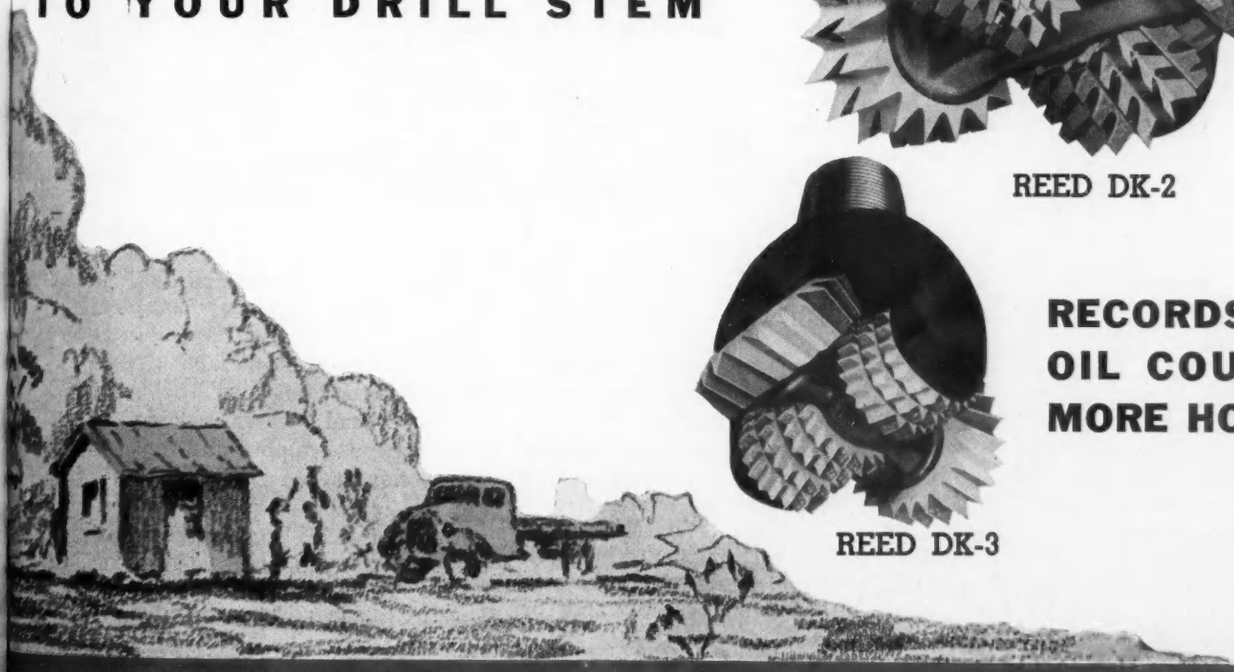

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drilling" outfits drill as well as they core. Core drill manufacturers long ago were versatile enough to build their machines to drill, just as the ordinary rotaries could core. The most effective type of drill, light or heavy, is one that drills and cores. It is not unusual in the most rapidly drilled small-hole tests to core formations that show question or promise, and those expected as definite markers. The most accurate geological information probably is obtained through liberal coring operations that are checked by electrical logging devices. Cuttings are caught at regular intervals by all operators.

In parts of Western Kansas where the recovery is only around 5000 barrels per acre, the drilling cost is almost $40,000 per well, the royalty $7500, and the lifting cost about $12,500. This $60,000-total represents 100 percent of the value of the recoverable oil at the present price. One producer has been able to reduce drilling costs more than $18,000 by the use of light rotary equipment and the drilling of small holes.

The drilling cost in Kansas and West Texas for small-hole development with light rotary outfits has been about $2.25 per foot, as compared with $4.25 to $4.50 per foot for drilling larger holes with heavy rotary outfits. In Oklahoma, the lowest cost reported for small-hole development in shallow fields was 97 cents per foot, but where 4½-inch casing was run the cost in the same district was about $1.50 per foot.

Small Hole Produced

One company drilled and produced a small hole in Oklahoma, having used a string of 4½-inch, 10-pound casing. The cost of drilling to 3400 feet was only $8500, as compared with a cost of $23,000 for the first wells completed. A portable drilling outfit was used. This company has used several type of small-hole and core hole units, but believes the very small drilling outfit will be confined to development of marginal leases and shallow fields. It is further believed that the light portable rig will not replace the larger rig in the deeper producing districts, because of the limited capacity for carrying a load.

Phillips Petroleum Company has been a pioneer in small-hole drilling operations, both from an exploratory and development standpoint. This company has drilled several 1200-foot holes in four days in Oklahoma, and recently drilled from three to four 550-foot holes per week in hard rock territory. The actual drilling time was 18 to 27 hours for 500 feet, and one 6⅛-inch rock bit was used for each hole. The machine used was an adaptation of the old type core machine, with various improvements.

Small holes are being drilled in several South Texas fields, since the thin sands in some areas do not warrant development on an elaborate scale. In the Lopex field, a small portable type rotary outfit is used for drilling to 2250 feet. Two joints of 8⅝-inch casing are set on the surface, a 7⅞-inch hole washed to bottom in a few hours, and 5-inch casing landed for the completion. Recently the trend has been toward even smaller holes in 3000-foot fields.

Very small holes are being drilled in Hidalgo County, Texas, to produce distillate properties that will show a low recovery. In the La Blanca field, wells are being completed in the 7900-foot sand, with the intention of plugging back and shooting other formations as the wet gas is depleted.

Small holes are being drilled in several West Texas fields, the trend having been a continuation of former efforts to reduce drilling costs and completion time. Portable rotary machines have been extensively used for this purpose, but light and medium weight rotaries also are popular for this type of work. Drilling cost has been sharply reduced with small holes.

The cost of the "slim hole" in proportion to the customary hole decreases materially the normal development expenditures. This reacts in favor of the holders of edge property, and acreage over reserves somewhat below desirable content in barrels per acre-foot, can be developed to a profit with the decreased development costs. The solution to a number of areas of doubtful economy may lie in the use of this equipment.

In areas where production is irregular through lenticular sands or lime that is streaked with saturation at irregular levels, the margin through which economic development is possible is limited within a narrow range. The smaller hole, lighter casing, less cost of depreciation, etc., increase this working limit between recovery and development cost.

With the "slim hole" rotaries now in the field, the shallow areas of Southwest Texas, the northern parishes of Louisiana, the Mid-Continent shallow section in northeastern Oklahoma and southeastern Kansas are being developed initially and for secondary recovery. The same is true of areas in the eastern states. Slightly deeper horizons, as in the KMA area, Illinois, along the Barton Arch of Kansas, and the Gulf Coast, the heavier portable rotaries are proving themselves. Recent drilling in the Permian Basin of West Texas has shown their adaptability for prospecting and drilling the Big Lime.

One of the hidden economies possible through the deeper coring machines is the cost of holding large acreage blocks at high cost to the firm. Such blocks could more readily be explored and developed if productive, or dropped if barren, with the new equipment than with customary wildcatting. The time element is of value in this respect, minimizing the rigging up time to a few hours, and proportionally decreasing the time to move out after completing hole. Concrete foundation is not a requisite at all, but in cases of extreme depths, taxing the machine to the limit, a solid foundation is desirable.

Smaller Casing Used

Casing used with the machine for the slim hole is of less diameter than is used on the usual well. For instance, assuming a casing program of a 3400-foot test to call for that footage in 7-inch and with 100 feet of 10-inch surface pipe included for the regular well. With the slim hole, in which 4½-inch OD pipe is used, plus 100 feet of surface pipe of a smaller diameter, a saving of around $2500 is effected. Also in connection with the casing, 2½-inch tubing can be run into the slim hole casing of particular choice. In the realm of new work, a number of operators have lately tested the practicability of welding casing strings while going into the hole. This has been tried with the new machines during drilling and has added another saving. The lack of casing collars afforded through the latter practice increases the void space between wall and pipe.

One authority has quoted figures between $1.20 and $2.00 per foot as being representative of total drilling costs in two important areas where drilling depths are around 2800 and 3350 feet. Both sectors are considered average in hardness of strata. The quoted costs include all labor charges, fuel, depreciation, bits, supervision and overhead, water, coring and miscellaneous supplies and expenses. These figures are representative of the newer type of portable rotaries now in the field. Lighter units effect event greater economies at decreased depths. The value of the development and the depth determining the application of the particular type or design of machine.

The second part of this article is to appear in an early issue.

Making An Art of CORE MAKING

His entire working life has been spent in the foundry. More than 12 years ago he began making cores for TESCO, has stuck to it, and is among the country's best.

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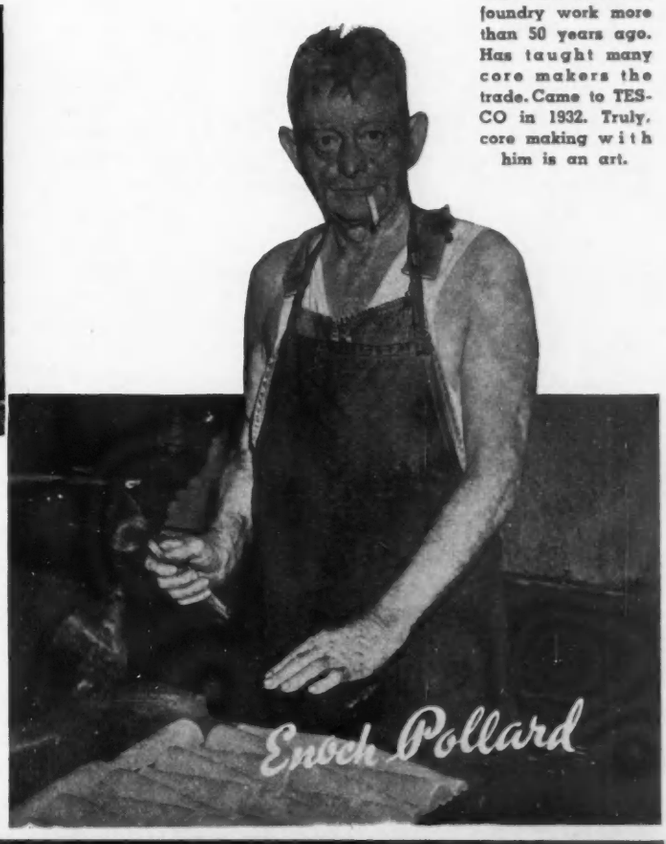

There's an art to core making, and these fellows have it. They know that each different type of core has its individual characteristics; its special requirements. They know the value of careful handling . . . that over-baked cores mean loss of refractory qualities . . . that under-dried cores mean moisture, and resulting gas, and pinholes in castings. They're not just core-makers...they're masters of the trade!

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The High-Slip Cage Type Motor for Pumping

By W. C. LANE
Electrical Engineer

THE decision of the management of a producing company with which the writer was associated on a recent oil field electrification project to standardize on the high-slip cage-type motor for pumping service was really the result of the appearance of a common but not generally known phenomenon. After putting the first generating unit in service and electrifying about a dozen wells, it was found that in spite of the automatic regulator provided, the voltage of the system was exceedingly unstable. Not infrequently the fluctuations became so pronounced that the undervoltage release on the line starters of some of the motors would cause the switches to open and stop the wells. At such times the needle of the voltmeter in the power house would swing over several hundred volts of the scale.

The source of some of the trouble was found to be due to an error made in the choice of voltmeter scales, which caused it to indicate a higher voltage than really was being generated. As a result the machine was being operated on a lower voltage than that for which it was designed. After this error had been corrected the variations were not so pronounced, but it was felt that they were still too great to be ignored. Attention was first given to the possibility that the voltage regulator was at fault. Before discussing this phase it will be well to describe somewhat in detail the nature of the load taken by a group of motors used to pump wells of the type involved.

The motors then in service are of the type known as normal torque, low starting current, across the line starting, splash-proof construction, 6-pole, 440/220-volt, rated on a constant load at 50 degrees C for continuous operation. With the exception of a few installations, the wells are equipped with double reduction gear units having the constant weight, variable radius type of twin rotary counterbalance whose mass is such that the full effect is utilized on only a few of the wells on the property. As a result of this, the fly wheel effect on a large percent of the installations is unnecessarily high. Production is obtained from 5 or 6 zones and the equipment serves wells having approximate depths of 1900, 2600, 3800, 4200 and 4400 feet.

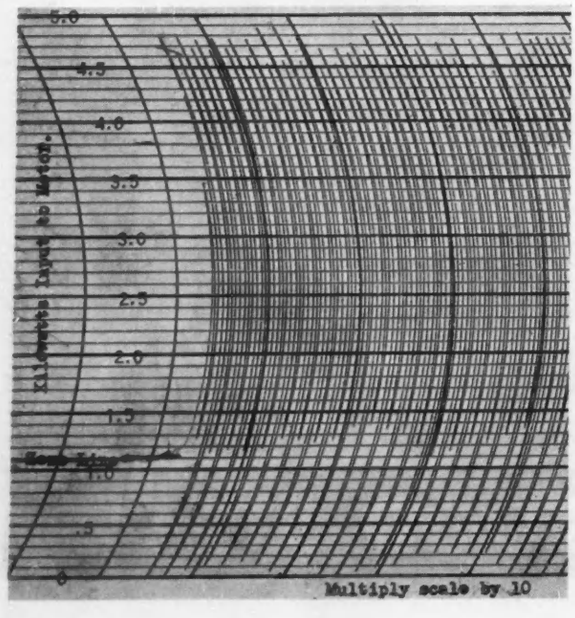


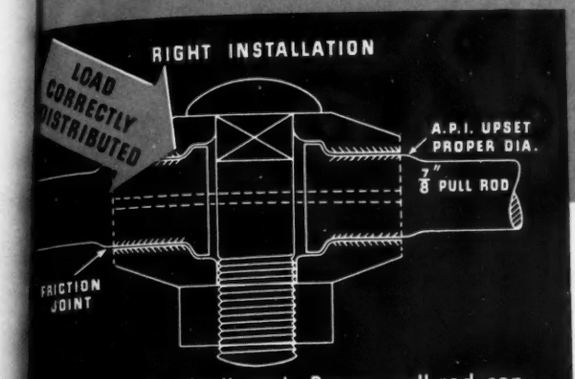
FIGURE 1

Power taken by a constant speed type squirrel cage motor rated at 40 horsepower, 1170 RPM, 50 degrees, splash proof, 440 volts, 3 phase, 60 cycles when used to drive a double reduction gear unit for pumping a well. Chart speed 3" per minute.

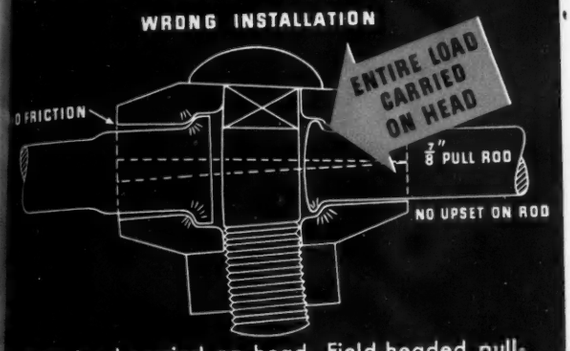
Electric Well Loads

The nature of the electric loads imposed by individual wells is shown on the chart of Figure 1. While the average loads were comparatively light, the motors were found to be taking a widely varying pulsating current which at times had a negative direction. As a result, during the intervals of negative current the motors were acting as synchronous generators and were returning electrical energy to the line from which they were being driven. At such times the six-pole motors were being driven by the rods and/or counterbalance above 1200 RPM. their synchronous speed. Charts similar to that shown in Figure 2 showed that at times the wells became synchronized and the rods all rose and fell together. Perhaps ten seconds later they broke step and the variations in the power demand because very small. This phenomenon is not confined to a system of small capacity as it has been observed elsewhere on a feeder connected to

Don't USE FIELD-HEADED PULL-RODS



Load correctly distributed. Proper pull-rod connection. Factory-made A. P. I. heads on rods fit the A. P. I. clamp perfectly.



Entire load carried on head. Field-headed pull-rod does not fit the clamp—will cause an early failure. A factory-made pony pull-rod would fit properly and give satisfactory service.

All "Oilwell" A. P. I. Pull-Rod Clamps are drop-forged and then "coined" or "sized" to insure perfect fits between "B" and the machined ends "A" of "Oilwell" Pull-Rods and Pony Pull-Rods.

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"FIELD-HEADED" pull-rods weaken the whole line (see diagrams). They cause misfit connections which soon break down under heavy loads. That's why "Oilwell" manufactures, in various sizes and lengths from 1 foot to 10 feet, Triple Heat Treated Pony Pull-Rods with A.P.I. upset heads. They keep the whole rod line strong—every joint fits perfectly.

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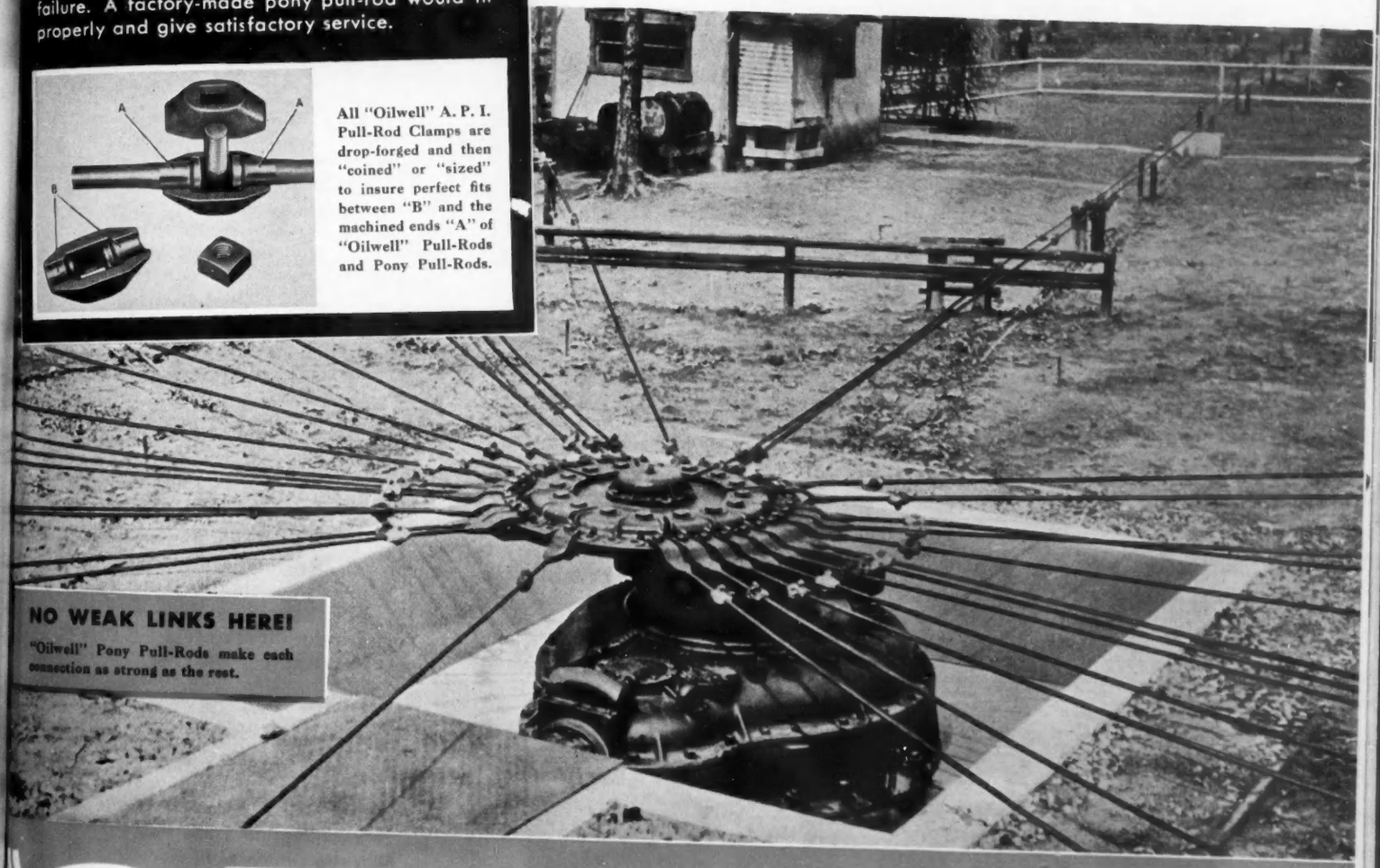

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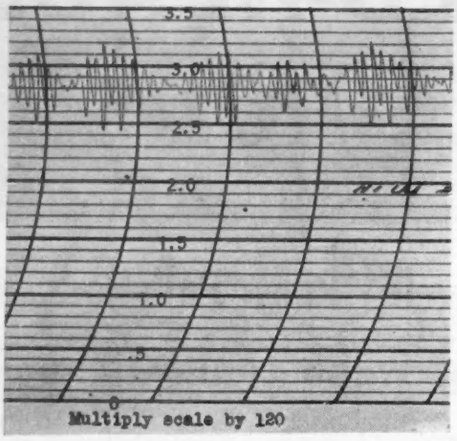

FIGURE 2

Power pulsations produced by a group of 12 pumping motors operated from lightly loaded generator. Chart speed 3 inches per minute.

a system of practically unlimited capacity.

Voltage regulators will not be discussed in detail here. It may be said that from the standpoint of voltage regulation, such a load as the one indicated, with it's widely varying power factor, connected to a lightly loaded unit is about the worst type to be conceived. Obviously the generator and the exciter will be working on very unstable parts of their saturation curves and the engine will be governing in a sort of hit and miss fashion. The time element of the regulator itself, any manufacturer's product, is not the controlling factor. The time required for the generator and exciter to respond to the regulator is so much greater than the period elapsing between the occurrence of a maximum and a minimum value of the power pulsations that a regulator that would act without any time delay, if such a one can be conceived, would be unable to cope with the situation.

The abandonment of the idea that the regulators were at fault led to the decision to try two other methods. These were to use sheaves of slightly different diameters and thus cause the wells to operate at slightly different crank speeds and to experiment with high slip motors. The first method will not be discussed, as no systematic study was made following the installation of a shipment of sheaves of dissimilar diameters. As the remainder of this paper is devoted to motors, perhaps it should be said that as more wells were attached, and more generators put into service the voltage variations became less noticeable. However, the tendency for the wells to become synchronized is still present. Figure 6 shows the variations obtaining now on a feeder serving about 80 wells.

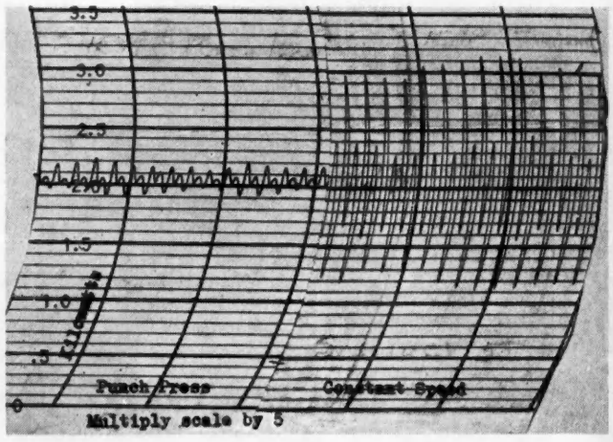

FIGURE 3

Power taken by a 15 horsepower, 1030 RPM punch press type motor as compared with that taken by a constant speed motor of the same nominal horsepower rating when the two are used to pump the same well.

The High-Slip Motor

Perhaps a simple explanation of the term "high slip" may be of some assistance for those to whom the idea is a trifle vague. The approximate no load speed of a cage-type induction motor depends on the number of poles or groups of coils in the stator winding and on the frequency of the alternating current used to drive it. When a load is connected to such a motor the speed must decrease in order that the torque necessary to carry the load may be developed. Otherwise it will stop. This decrease in speed has given rise to the term slip. For an exact mathematical definition of the term reference may be made to any standard text on electric motors.

Constant speed motors of the type commonly used to drive pumping wells are so constructed that their speed decreases about 2½ percent when full load is applied and such motors are said to have 2½ percent slip. A motor built so that it has 8 or 10 percent slip is called a high-slip motor but the term itself refers to no particular numerical value. The amount of slip inherent in a motor is governed by the amount of resistance in the rotor circuit, the shape of the rotor bars and the consequent manner in which they are embedded in the iron of the rotor, the length of the air gap and on other factors of interest only to the de-

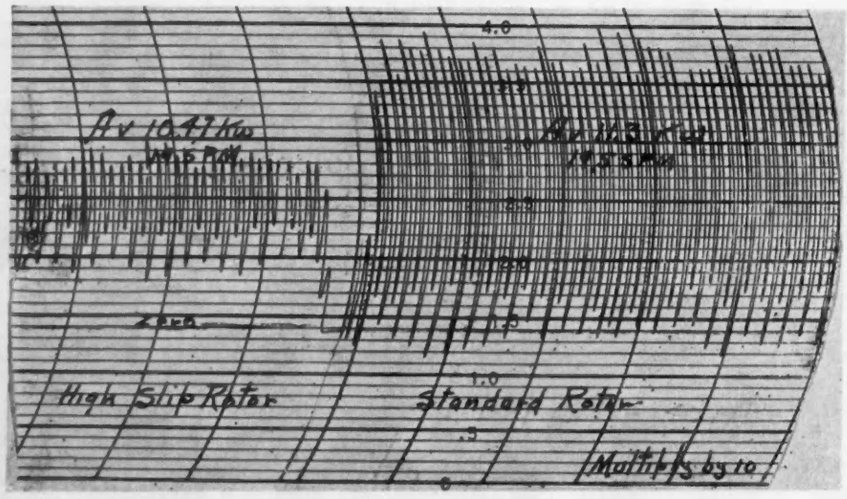

FIGURE 4

Power input of a 25 horsepower motor when equipped with a standard and a high slip rotor. Average power consumption 7.3% less when high slip rotor was in service.

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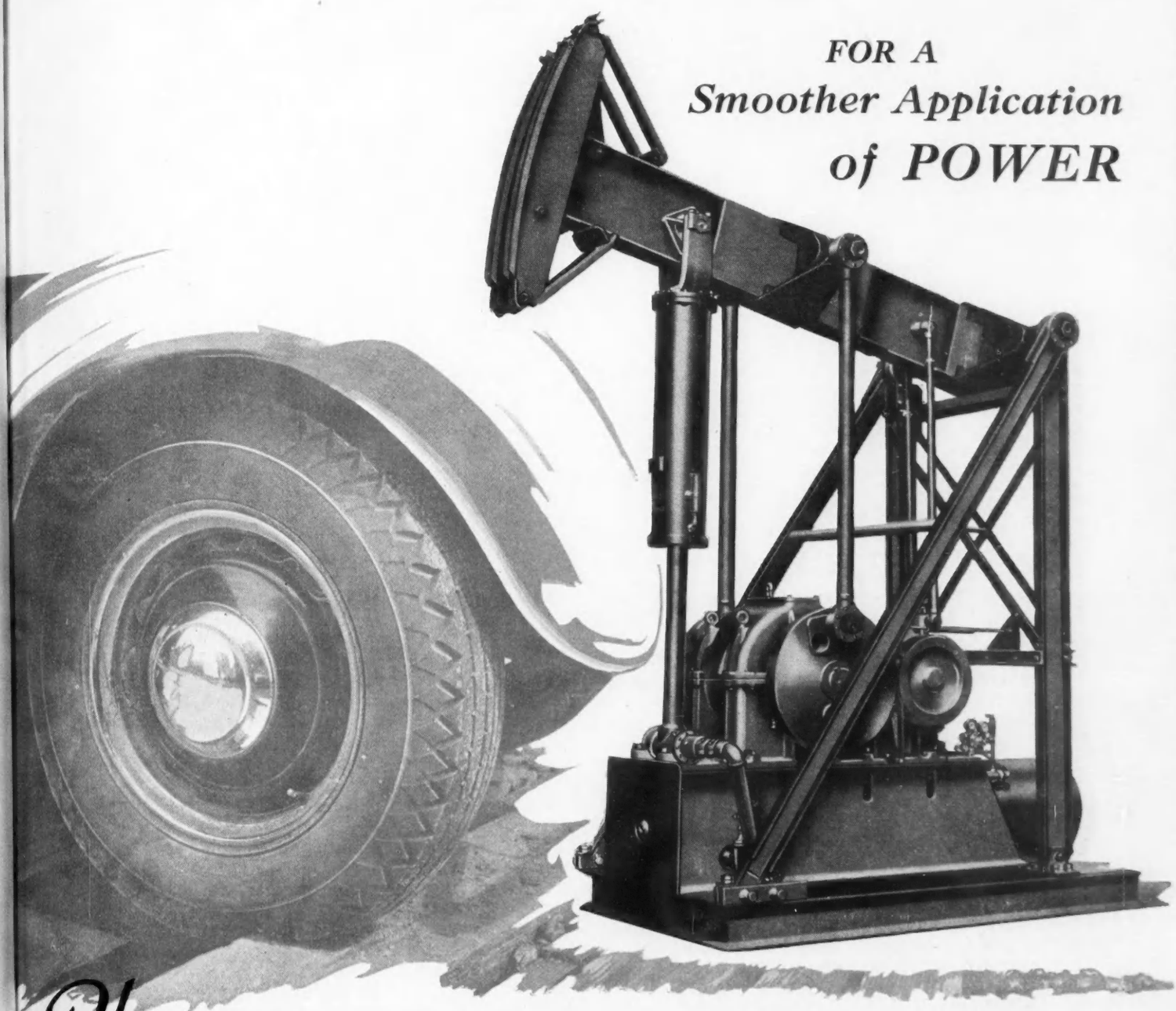

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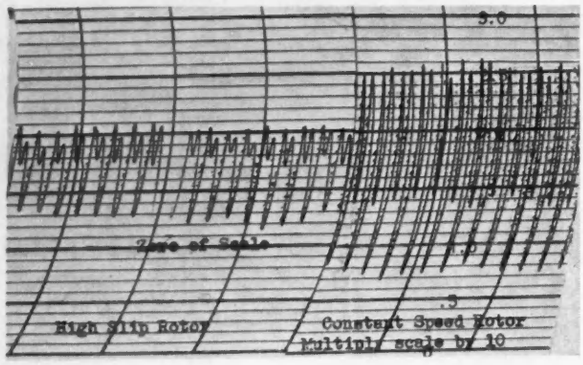


FIGURE 5

Pulsating power taken by a 40 horsepower motor used in pumping a well showing the difference in peaks and the depressions when the two types of rotors are used. Note the reverse power lobe when the low slip rotor is in use.

signer. A common misconception is that slip is entirely a matter of rotor resistance and that it follows that a motor which has a high slip has a proportionally low efficiency. It is true that on a constant load, such as is encountered in driving a ventilating fan, the high slip motor is the less efficient but on motors of modern design, efficiency is not directly proportional to slip since rotor resistance is only one of the contributing factors in the production of slip.

In a sense the well known two-speed motor when operated with some of the grids in the rotor circuit is a high-slip motor. The old rule that efficiency and slip are linked together rigidly is approximately true when applied to this type, especially when the motor is operated on the high speed connection.

Previous to the last two or three years the punch press or eleyator type of motor has been used to a very limited extent on a few small installations. One manufacturer of pumping units, and possibly others, has used it as a means to "soften the drive" on units that were thought to be a little light and to provide additional starting torque. Apparently no thought was given to the other advantages incident to the application. It appears from what has been learned in recent months that unconsciously such users were over-motoring their wells. If it were believed that a punch press motor of a certain rating was required to pump a certain well the manufacturer supplied a motor built in the next larger frame size than that used in a standard constant speed motor of the same rating. To be more explicit, a 10-horsepower motor of this type has the same physical outline and costs a trifle more than does a 15-horsepower constant speed motor of the same speed rating. If the conclusions outlined in this paper are correct the 10-horsepower punch press motor will carry as much as a standard 15-horsepower on a pumping load.

The writer began advocating the use of the high-slip motor 12 or more years ago.

The first rotors to be received were designed so that they may be used in the stators of the conventional type motors then in service. In making a study of the problem the wells were driven by a motor equipped with first one type of rotor and then the other, the stator being common to both. In each case the driving sheaves were so chosen that the crank speeds remained practically constant. Preliminary tests had indicated that this precaution is absolutely necessary if results of value are to be procured. In each test readings were taken of starting and running current, voltage variations, power input, power factor, 15-minute power demand, watt hour consumption over a period of time, temperature of motor parts, polish rod stresses and horsepower, fluid produced by well. The observation that caused the most surprise was that it appears that the less efficient high slip motor uses no more and probably less power in driving a given well at a certain speed and stroke than is used by the conventional type constant speed motor operating under the same conditions.

No attempt will be made to edit and present the data taken here. The input curves given in Figures 3, 4 and 5 show very clearly the effect of a change in rotors on the electric load taken from the system. The temperature of the motor was in no case found to be any greater and as a rule it was lower when the high slip rotor was in service. All data taken points to the truth of the seeming contradiction that the less efficient devise may be more efficient when applied to a pulsating load. In any of the observations made, where there was a difference in the power consumption, demand, power fluctuations, rod stresses, current, and motor temperature it was always in favor of the high slip rotor.

Some of the advantages the high slip motor is believed to possess and the disadvantages it is known to have are as follows:

Advantages of High Slip Motor

(1) They have more starting torque so the nuisance of having to rock the beam while starting a heavy well is eliminated.

(2) They take much less starting current from the line so produce less local disturbance on the system. The danger of opening the line starters on neighboring wells is materially reduced. Lighter secondary lines may be used.

(3) They cause less disturbance on the system as a whole during starting operations. This is an item of major importance on a system of limited capacity.

(4) The current pulsations due to a group of wells becoming synchronized are less pronounced so better voltage regulation may be maintained on the system.

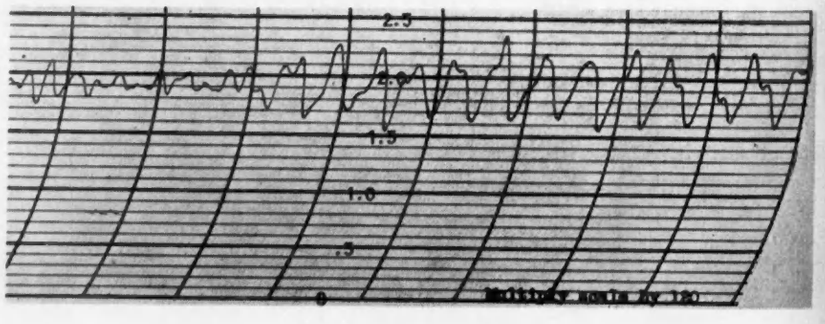
(5) Measured demand on a group of wells, smaller. Of advantage to purchasers of electrical energy under a rate specifying that the demand shall be measured.

(6) Probable power saving due to higher efficiency of motor on pumping load.

(7) Lower stator temperature on

FIGURE 6

Power curve of feeder carrying 80 pumping wells. Note how wells become synchronized and then drop out of step. Chart speed 3" per minute.



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equivalent average load to be expected.

(8) Better adapted to time switches by reason of great starting torque.

(9) Motors provide a softer drive thus making it easier on both surface and subsurface equipment. Less belt and gear trouble, fewer rod failures and as a result lower maintenance cost.

Disadvantages of the high-slip motor are:

(1) A high slip motor having the amount of slip believed to be desirable, rated on a continuous load for a 50-degree increase in temperature, splash proof construction, costs from 10 to 15 percent more than a constant speed motor of the same rating. This refers to a motor designed for oil field service and not to the older types of punch press motors.

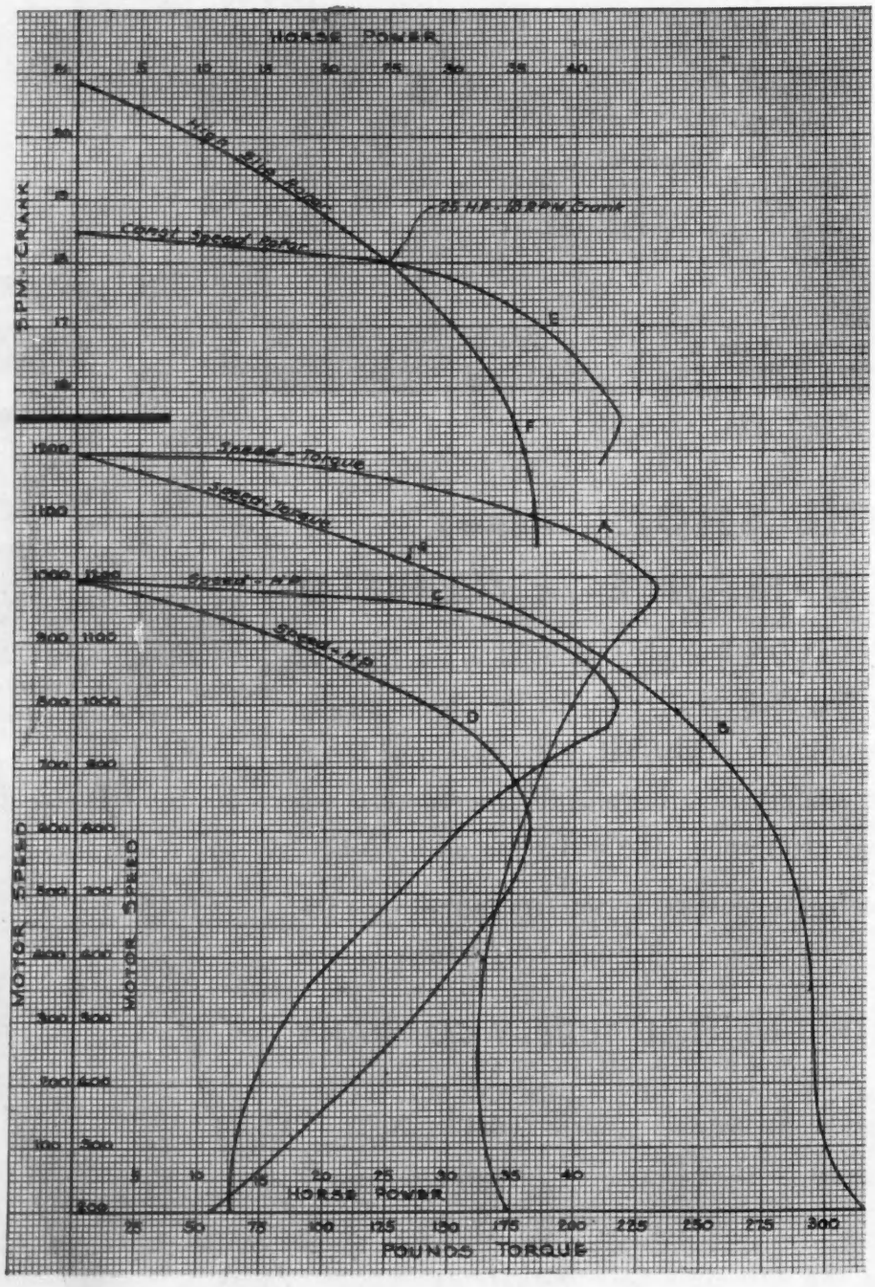
(2) Possibly a slightly longer air gap is desirable since a greater proportion of the losses of the motor occur in the rotor and more rotor expansion will take place. The change in power factor resulting will be of academic interest only since the longer gap will exist only when the motor is cold.

(3) The motor is special and the manufacturer will discourage it's use since it should not be sold interchangeably for pumping and constant load use. Vendors will hesitate about carrying the type in stock.

The management of the project under discussion weighed the advantages outlined above against the one major objection, that of the increase in the cost of the additional motors to be purchased and the cost of exchanging the rotors of the motors then in the warehouse stock and decided to adopt the revolutionary course.

FIGURE 7

Characteristic curves of motors used to drive a pumping well.



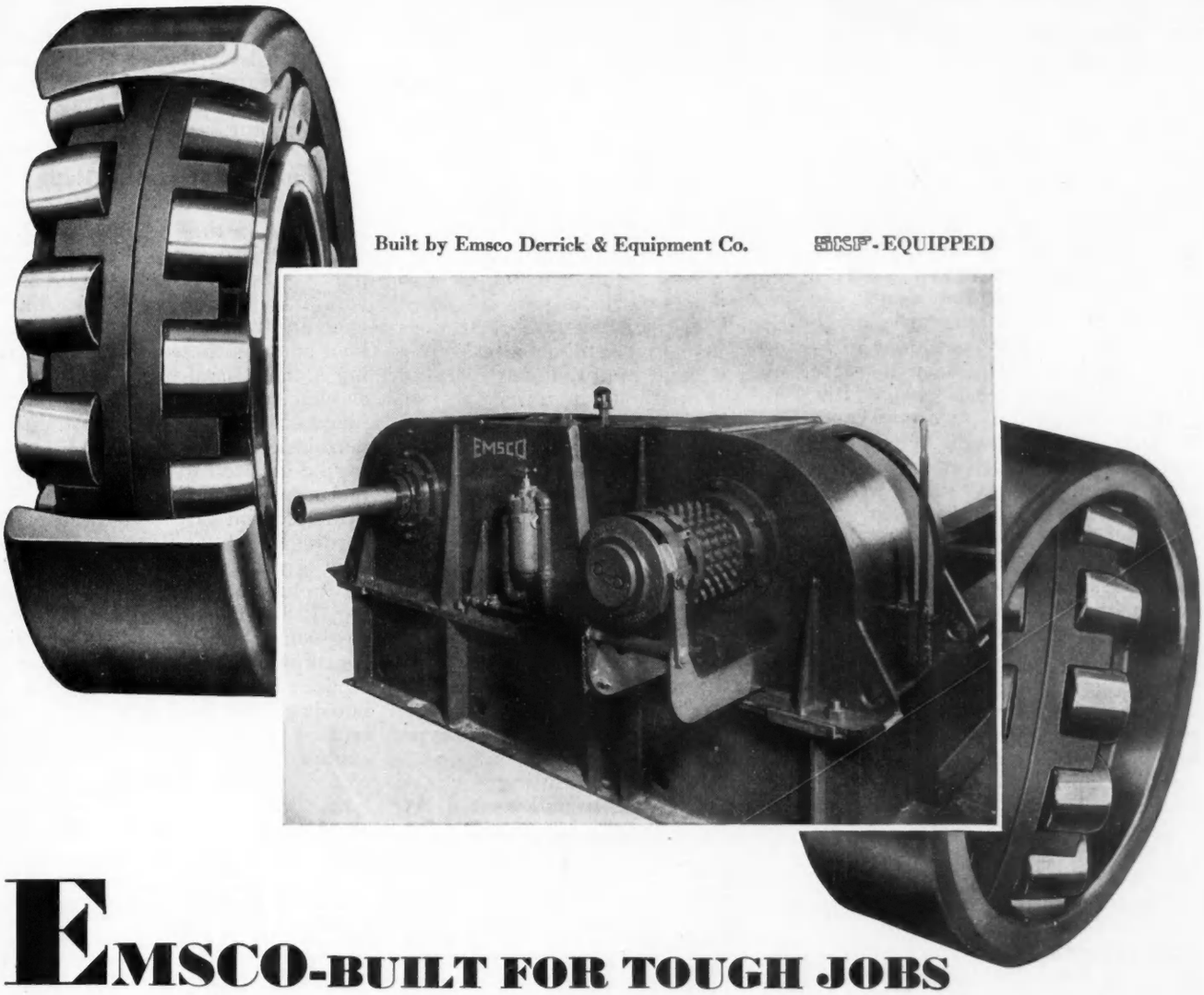
Analysis of the Operation of the Two Types of Rotors

The following explanation is offered by way of accounting for the difference in the behavior of a motor when equipped with the two different kinds of rotors. Throughout this discussion reference will be made to the curves shown on Figure 7. Referring to this figure, A and B are the Speed-Torque curves of a 25-horsepower motor equipped with first one type of rotor and then the other and C and D are the companion Speed-horsepower curves plotted from values taken from A and B. In obtaining the values for plotting C and D the speed may be read directly but the horsepower must be calculated. For a given point "a" on B,

$$HP=\frac{2\times3.1416\times1030\times130}{33{,}000}=25.+$$

Curves E and F are constructed from C and D and are based on the assumption that the average crank speed is 18 RPM when the average load on the motor for the two conditions is 25 horsepower. An inspection of C and D will show that when the average loads are 25 horsepower the rotor speeds will be 1170 and 1030 respectively, so sheaves having different diameters must be provided. The overall speed reductions will be 64.9 and 57.8, that is 1170 and 1030 divided by 18. Crank speeds for loads other than 25 horsepower are obtained by dividing the corresponding speed values by the corresponding reduction constants.

Referring to E and F, it may be seen that the crank speeds for zero load are 18.5 and 20.8 revolutions per minute. In order for the mechanical system to supply the energy required to keep the rig in motion without assistance from the motor it is necessary for the average crank speed to increase .5 revolution in one case and 2.8 in the other. This occurs when the mechanical unbalance is such that it overcomes the flywheel effect



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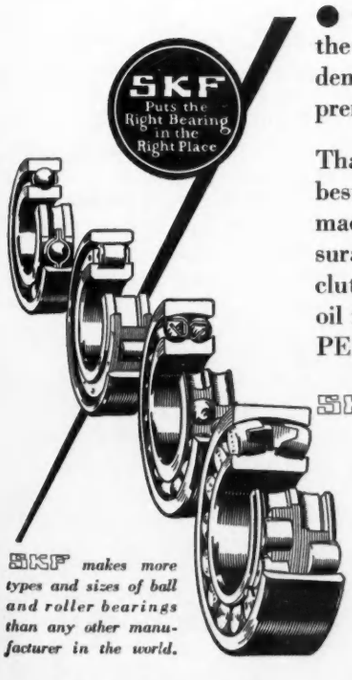

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and increases the speed to the values cited, and in doing this, energy is stored in the rotating system. Since the amount of energy stored in a rotating system varies as the square of the speed, the relative amounts added in the two cases are proportional to $(20.5^2 - 18^2)$ and $(18.5^2 - 18^2)$, the ratio being approximately 6 to 1. The amount of energy transferred from potential to kinetic due to the unbalance present is insufficient to cause the speed to be increased to 20.5, but it will cause an increase to slightly over 18.5. Hence, low power swings and in some cases reverse currents will be present when a well is driven by a constant speed motor and they will be absent when a high slip rotor is in service. The curves shown in Figures 3, 4 and 5 picture this action very clearly, especially Figure 3 which has an excessive amount of slip and a lower efficiency than is justified.

Referring again to E and F, let it be assumed that the instantaneous load has increased to 32.5 horsepower. The crank speeds will be 17.6 and 16.3 so the energy given up by the rotating system, based on the same system of calculations used above, will be in an approximate ratio of 1 to 4 under the two operating conditions. Obviously the motor in each case must draw enough power from the line to carry a load equal to the difference between 32.5 HP and the energy supplied by the rotating balance and this is materially less when the high slip motor is used.

Other factors entering into the problem are acceleration of rods and fluid and friction in the tubing. It is a well known fact that a greater number of foot pounds work is required at the polish rod to make one stroke when the crank is rotating at an average speed of, say 18 strokes per minute than at 16. On a certain well in mind the work done at the polish rod when it was driven at 9, 17 and 21 strokes per minute was 7953, 10,870 and 16,810 foot pounds respectively per stroke. Assuming that the same amount of oil is lifted per stroke, it appears that the high slip motor, and for that matter any other type of prime mover that has a quickly falling speed characteristic, operates the rig at a lower instantaneous speed during the acceleration periods and as a result performs the useful work with a less expenditure of foot pounds work.

Capacity of Motor on Pumping Load

Designers and vendors of electric motors talk about efficiency, power factor, overload capacity and of other terms relating to motors, all discussions being based on the performance of the motor under constant load. Precisely what are the value of such claims and ratings when a motor is applied to such loads as have been described which are representative? It does not seem to be universally known that a cage motor, honestly rated by the methods in universal use, positively will not carry a pumping load whose average value is equal to the rating thus set up. In actual practice, after a well has been started, the load limiting factor is the temperature developed and this is governed, not by the average current, but by the magnitude of the peaks and depressions associated with a current of a given average value. A stock type cage motor of a given rating should not be expected to carry as much load as will one of the old type double speed slip ring motors of the same nominal rating for the latter were greatly under rated. As an illustration of this, the 35/75 motor of one manufacturer is rated at 125-horsepower when used to drive a cotton gin. As may be surmised the price paid in each case is based on the latter rating.

Application Factor

The term, application factor, is one that should be taken into consideration in determining the capacity of the motors to be used on any piece of work. It may be defined as the constant by which the calculated horsepower required to pump a well must be multiplied in order to determine the rating of the motor to be installed. To illustrate, suppose calculations show that 12 HP is required to lift the fluid a certain well will produce, the motor-to-tank efficiency is assumed to be 40% and the application factor is 1.33. The motor to be installed should be rated at 40 horsepower. The exact value of the application factor depends on several things, among which are the counterbalancing of the well, the type of balance used, gas conditions, and the type of prime mover. The evidence now available indicates that on the type of equipment used on the tests discussed the factors are approximately 1.11 and 1.33 for high slip and constant speed motors respectively.

Proposed Method of Rating Motors

It appears that much of the confusion existing in the minds of purchasers of pumping equipment would be eliminated if the difference in the nature of a constant load such as that involved in driving a centrifugal pump and that of a well pumping load be recognized officially. It is suggested that permission to use the A.P.I. marking be granted to only such manufacturers as will recognize this principle and rate their motors accordingly. In addition to the data now given, the following should be included. (1) Horsepower rating, (2) full load speed, (3) under a given type of load, (4) while continuously operated, (5) when equipped with a given type of housing, (6) with a standard increase in temperature. When stamped on a given motor the data would appear something as follows:

Horsepower	Full Load Speed	Nature Load	Class Service	Type Housing	Temperature Increase
15	1030	Constant.....	Continuous....	Open.....	50 degrees C.
13.5	1040	Constant.....	Continuous....	Splash proof...	50 degrees C.
12.1	1050	Pumping.....	Continuous....	Splash proof...	50 degrees C.

Present Status of Installation

The foregoing is a partial record of the things which led to the decision to standardize on the high-slip motor for operating the wells on the project under discussion and the reasoning and analyses followed in arriving at this decision. Of a total of 210 pumping motors purchased 171 are equipped with high-slip rotors and 39 are of the type having constant speed characteristics. The majority of these have gone through the heat of one summer, and a few that of two, and no unanticipated trouble has developed. On several occasions wells which could not be operated at the desired speed and stroke with constant speed motors by reason of excessive heating were pumped without difficulty with high slip motors of the same rating as those replaced. Thirty-one wells are operated by time clocks which start and stop the wells several times a day without assistance from the switchers. As yet nothing has occurred which indicates that the high slip motor idea is unsound.

*With Smith Casing, because it has greater collapse resistance, you can—

1. Use lighter weight for specified depth and maintain the present safety factor—at less cost.
2. Increase the safety factor at the same depth without increase of weight or cost.
3. Attain greater depths with equal safety.

*Because of greater compression strength, you get greater resistance to "pull-out."

*Because threads are more accurate, you get—

1. Greater make-up speed.
2. Greater running speed.

Not Figures of Speech

One of the longest strings of 9⅝-inch 40-pound casing ever run was composed entirely of Smith High Yield Casing and set to a depth of 9017 feet in a Louisiana oil field by one of the major companies. The entire string was run by the regular drilling crew without outside help—and the job was completed in 15 hours and 15 minutes.

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Procuring Safety Through Policies

Safety in oil field operations is achieved through a mutual understanding of policies and problems by both the workers and the management

By JAMES I. POWELL

NOTHING is more interwoven with all human activity than the desire among oil field workers to avoid injury to themselves or to others. But that, unfortunately, is not the deciding picture about accidents or would-be accidents. There are times when this worthwhile desire is pushed aside by some outside and indirect influence before it has had its chance to accomplish the objective in preventing an accident.

In order for the workings of an organization to proceed progressively along a planned course, there must be men who do the actual manual labor, as well as those whose duties are to supervise that labor. If the operations are to work smoothly, each must feel his responsibility to the other. When there exists an attitude of cooperation and understanding between the two, few problems ever arise which cannot be remedied with a minimum of friction and resentment.

It can hardly be called anything other than human nature for an employee—whatever his capacity—to do everything in his power to please the man for whom he is directly working. But often in his anxiety to please that particular boss, he is at a loss to know just what it takes to do this. Confronted with this situation, and in the absence of a superior, a subordinate, whether he be driller or toolpusher, must resort to his own resourcefulness to fulfill the urge to please. This he must do at least until he can reach his superior, at which time he will seek to verify the approval or disapproval of his method used in accomplishing the task. It is very well that all employees have such training, for they must have experience in relying upon their own resourcefulness, if safety in oil field operations is to be attained.

No individual is endowed with perfection in resourcefulness, and it is probable that no one will ever be; but there will always be the urge to proceed in that direction. The progressive supervisor of drilling operations is constantly adding worthwhile ideas of operation to his own mental stores which were handed up by his subordinates. The aggressive and open-minded driller is ever increasing his own knowledge through seeking and considering the opinions of his helpers.

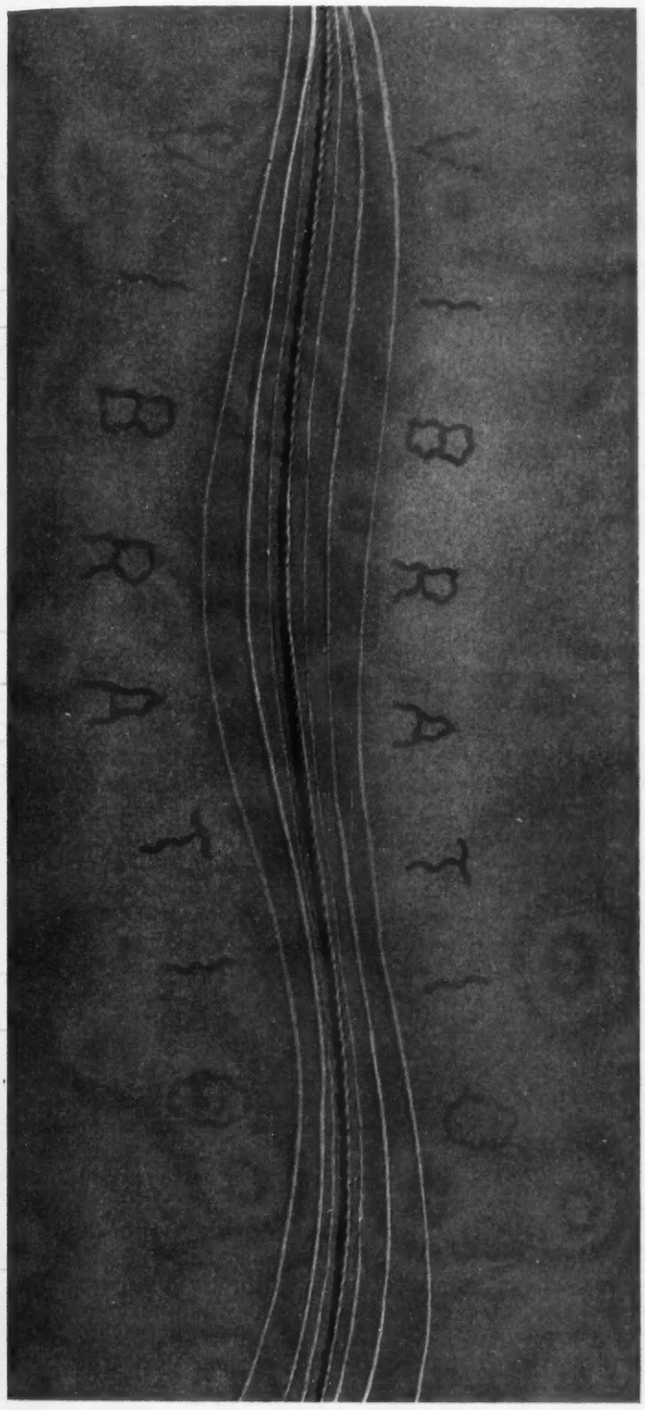
Every accident that has occurred within oil field operations has had a peculiar individuality about it. In other words, no two accidents have had, as a cause, the same identical set of circumstances—direct or indirect—surrounding them. No two analyses comprising an itimized list of causes contributing to two distinct accidents could ever match. Moreover, all accidents must primarily be treated as individualities with respect to the nature of their occurrence. To be able to cope with any individualized matter successfully, one must be resourceful; and, to acquire resourcefulness, one must be familiar with things in their true light as they have occurred as well as to calmly anticipate occurrences of a parallel nature. It is this anticipation which gives the force and impetus to safety work which has been responsible for preventing numerous accidents.

Occurrences in Their True Light

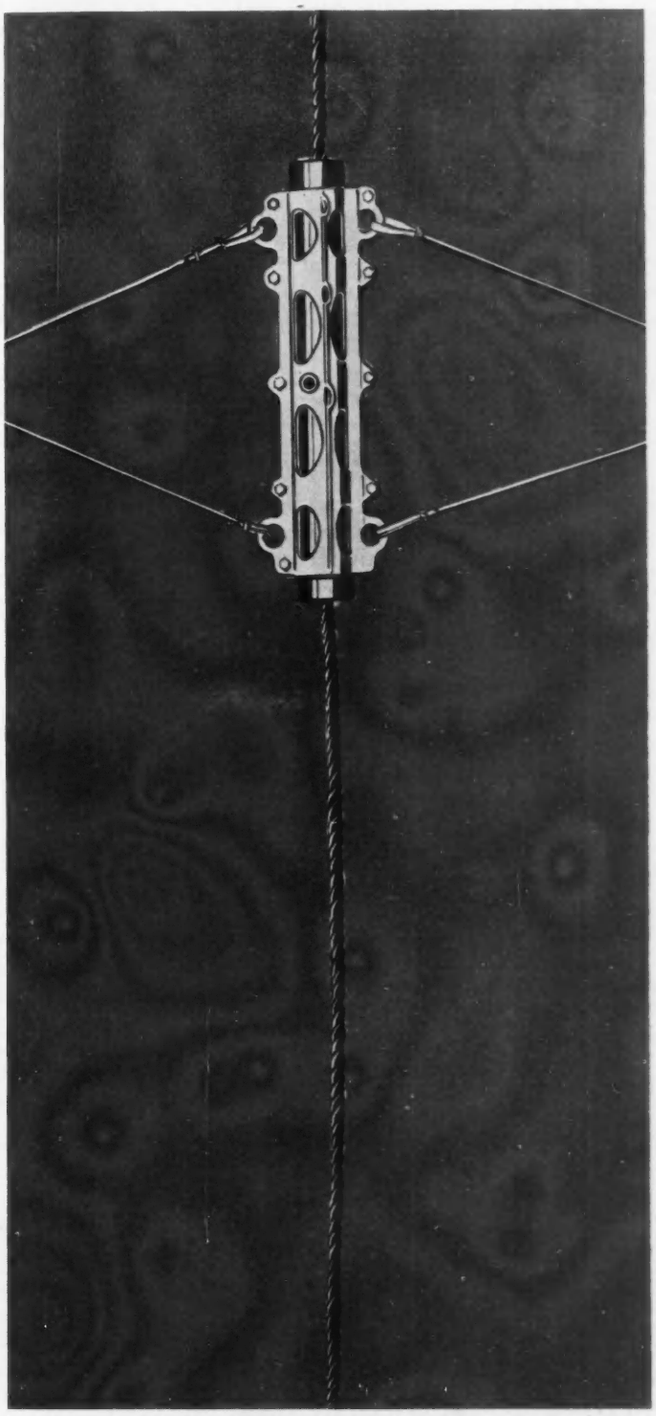
Try and sense your own personal reactions if you were faced with two alternatives, either one of which in the end, might spell extreme mental and physical discomfort. Suppose it were left up to you to choose between carrying out the command of a superior, after you had expressed your views on the hazardousness of the undertaking, or refusing to obey orders and face whatever consequences the turn of events might bring. The command in question was that of a drilling crew being ordered by their driller to lay a pipe line through dense underbrush and cacti during the early pitch dark hours of the morning.

The drilling crew knew beforehand that the dense underbrush and cacti were infested with poisonous rattlesnakes, coral snakes and tarantulas. Only two hours before, other employees had killed a large rattlesnake as it crawled across the grounds adjacent to the drilling rig. They were aided in their kill by the glow of the electric lights from the rig. The place where the line was to be laid, however, was at an adjoining location several hundred yards away. There was

Does your wire line have the "jitters"?



Here's the condition



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only one flashlight to be had, and it was by that one tiny glow that five men were expected to perform the difficult task of screwing long sections of pipe together. And, at the same time, they had to be on guard against stepping on or drawing the attention of a poisonous snake. Little imagination is needed with which conclusions might be drawn as to the nature of craftsmanship extended on that and other jobs wherein such inconsiderate treatment at the hands of the driller was concerned.

Fortunate, indeed, was the fact that not one of the five men was bitten by a snake or otherwise physically injured, during this particular incident. Nevertheless, a crew subjected to such treatment suffered from shattered morale. Resentment arose still higher at a driller who could be so unconcerned over the safety of his men. The antagonizing thought raged in the minds of those men that should one of them be bitten he would die before reaching medical aid.

The locality in which they were working was some twenty miles from the nearest medical assistance. The country road connecting the two was rough and required slow travel—an hour at least was required to drive between the two points. An investigation after the incident revealed that a safety kit which was supposedly in the tool house, had been appropriated by some selfish individual for his own anticipated emergency.

One will naturally ask the question: What are the deep-seated reasons that would prompt this driller to such a course of action? The answer is, in short, that he did not have a stable understanding with respect to the policy his company adhered to regarding safety practices. Since this driller and many more are not students of deeper thought, they are incapable of giving the same interpretation to broadly stated rules as those are who formulate them. Thus, because this company did not have specific rules governing such a particular incident he blamed the company for not trying to understand the problems of the men on the firing line.

Incidents and events which may possibly converge into accidents are always surrounded by circumstances which must be considered before a remedy can be adopted to avoid the converging climax—the accident. As in the case of a further study of this particular driller, it is found that his acts were motivated, in part, through a fear for what he termed as "catching hell" should a job not quite please the boss.

The driller was asked by one of his men why they could not wait until after daylight to perform this particular hazardous undertaking. The man then added that the chances of stepping on a snake in broad daylight would be small as compared to the chances one would take in the dark. The driller retorted by saying that the toolpusher would be out at the rig by daylight and if they didn't have the pipe line laid by then there would plenty of trouble raised.

The driller on being questioned admitted that he was only assuming that the toolpusher would expect his men to perform a task contrary to the generally accepted theory of policy regarding safe practices. And, during further discussion, the driller told of a toolpusher under whom he had worked a year previous. The toolpusher was defined as one who constantly assumed an air of superiority, and one who readily found fault with everything and everyone but himself. He was severely curt and gruff during normal discourses with reference to operating transactions. The driller admitted that it was through such treatment that he began harboring a fear for those in authority. Thus, it was that old core of fear which indirectly contributed in motivating his actions. He believed that even though he must face odds from a safety standpoint, he would not have to explain away the fact that a specific job was not done at a specific time.

Formulating Safety Policies From Research Data

Drilling crews who work at night cannot be expected to do the same nature of work, in every instance, as crews that are engaged in daylight operations. There is no doubt that this statement will be held as generally true by the majority of field supervisors; yet, on the other hand, there are those exceptions where a driller will be influenced to disregard what would generally be considered good judgment. In other words, he is using his best interpretation of policy in arriving at what he thinks is the correct thing to do under the circumstances. And, if the proposition as carried out turns out to be wrong in the eyes of his superior, he expects to be instructed in a constructive manner—not threatened into thinking he will lose his job at the next sign of error.

Due to the nature of drilling operations, there are always a number of small equipment repair jobs, routine maintenance and other tasks that are held in abeyance, or until such a time as a cause arises which necessitates shutting down the rig. As a general rule, these things are attended to only while the rig is shut down on cement time, or else being moved onto another location. There are exceptions, however, but they are dependent upon the degree of the emergency and the efficient frame of mind of the crew in charge.

No member of a drilling crew is quite able to predict at just what time a rig will have to be shut down, due to any number of possible situations. And, if crew members associate minor repair jobs and routine maintenance only with cement-time and location moves, they will likely thing there is nothing definite for them to do during intermediate shut down periods.

As in the case of the above referred to driller and his night pipe laying incident—had he known of a needed repair that might have been made on the equipment then, rather than waiting until cement time, he likely would have performed the repair at that time instead of subjecting his men to such hazards. A three or four-hour delay in starting the pipe line, when the nature of its emergency did not demand the promptness given it, would have made little difference to the management as long as other important work was being carried out. While on the other hand, had the crew members sought out a smooth board and slept on it until daylight, there is little doubt that the management would have found just cause for an unsatisfactory temperament.

The object in illustrating this incident is to relate how the lack of an understandable and practical policy of operation may have its influence upon the occurrence of accidents. While it must be admitted that no employer or supervisor would wilfully or knowingly create conditions which might prove fatal to one of his employees, we cannot deny the fact that accidents do not occur without a cause or causes. The prevention of accidents in oil field operations depends upon the thoughtfulness with which all employees understand the most effective policies as they relate to safety in operation.

WORLD DEVELOPMENT and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Mexican Situation

Cardenas refuses to settle expropriation muddle by arbitration . . . Ex-Eagle employees threaten to go on strike August 6 . . . Mexico negotiates with Germany

MEXICO'S flat refusal August 3 to allow a committee of international arbitrators to decide whether there had been compliance by Mexico with the rule of compensation as prescribed by international law is taken in some circles as an admission on the part of Mexico of the doubtful legality of expropriating some $400,000,000 worth of foreign controlled oil properties March 18. And while the refusal, which in itself is construed to be a violation of the terms of the treaty signed by the United States and Mexico January 5, 1929, in Washington, came as a result of a note from Cordell Hull to Mexico July 21, protesting the delay Mexico has shown in meeting payments for previously expropriated farms and agrarian properties belonging to Americans, it is considered to have a definitely dampening effect on the chances of recovering the oil companies' properties or of obtaining satisfactory compensation therefor.

Meanwhile, Mexico contends that payment for expropriated properties is purely a matter of internal, domestic concern and that, bluntly, international law and equity do not enter into the matter.

Expect Another Note

Official Washington, on the other hand, is studying Mexico's reply, and it is expected that the secretary of state will soon frame another note to Mexico.

Press releases from Petroleos Mexicanos, the official government company for operation of the confiscated oil properties, continue to tell of progress made by that organization in carrying on the industry. Considerable prominence has been given in Mexican newspapers to wage increases, plans for new drilling, pipe lines, refineries, et cetera. The government seems to consider it very important that the Mexican people be impressed with the efficiency of the workers of Petroleos Mexicanos. That is why considerable curiosity was expressed in Mexico City August 3 when the senate passed a bill imposing at 12 percent horizontal increase in export duties. The bill is said to have been proposed by Finance Minister Eduardo Suarez to raise "funds needed increasingly since the government's expropriation of United States and British oil properties March 18." The increase in export duties is expected in government circles to increase the revenue about $20,000,000 annually.

Though the Mexican government is silent on the matter, it was learned from very reliable private sources last week that production of wells under the administration's control—most of the wells in Mexico—is being held to approximately 57,000 barrels daily. The productive capacity of these wells, according to President Lazaro Cardenas, is about 150,000 barrels daily. The curtailment is shown as follows, amounts in barrels:

Zone	Normal Production	Present Production
Poza Rica	70,000	17,000
Panuco	26,000	16,000
Linea de Oro.....	36,000	14,000
Isthmus	26,000	10,000

Labor Troubles

Trouble in finding customers for Mexico's oil for export continues. Reports in Mexico City during the week were that one of the largest pending deals for sale of oil to be delivered to European ports had fallen through because banks had shut down on the potential customer so far as the deal for Mexican crude was concerned.

Labor troubles continue too. A telegram received August 5 from Mexico City said that Section No. 1 of the National Oil Workers Union, composed of former Mexican Eagle Oil Company workers, had decided upon a 24-hour sitdown strike August 6 unless their chiefs soften their stand against the workers' demand that a mechanic be placed in an executive position. If the chiefs are still adamant after the day of loafing, the message said, the workers have threatened a general strike. Vicente Lombardo Toledano, czar of the Confederation of Mexican Workers, has assured the Mexican Eagle workers of complete support.

Trouble also exists in the Ebano section of the National Oil Workers Union, composed mostly of ex-employees of Huasteca Petroleum Company. They are displeased with actions of their ex-leader, Zamora, whom they accuse of trying to establish a proletarian dictatorship and of manipulating with higher ups in Mexico City to have dismissed all workers who oppose him. The telegram states the workers are considering striking.

Three Wells Started

Petroleos Mexicanos has started drilling two wells in El Plan fields, southern Vera Cruz state, where the Mexican Eagle Oil Company did extensive work, and a well in Poza Rica belt.

Another Petroleos Mexicanos announcement is that it is arranging to acquire an unspecified number of tank cars and three tankers to facilitate movements to home and foreign markets. The company claims it has nearly 300 tank cars at its disposal. The new cars are to come from the United States, either as new vehicles or leased from American railroads, it is understood.

The organization also declares that four steamers, three Norwegian and one British, are at Gulf ports loading oil products, mostly gasoline, for unspecified European deliveries, and that five more tankers are due during the week starting August 8.

Whether the telegram referred to the above tankers is not known, but a wire to THE OIL WEEKLY August 4 stated that five independent tankers were being held up in Mexican ports, four in Tampico, the other in Puerto Mexico. They were to have loaded petroleum products for export.

Mexico-Germany Barter

Negotiations of a barter arrangement between Mexico and Germany under which the latter will take oil from the American and British properties expropriated by the Mexican government was confirmed in Washington, D.C., this week by the Bureau of Mines.

That a deal whereby Germany would take oil from Mexico, to be paid for largely in German products, was in process was reported several weeks ago, but difficulty was experienced by interested parties in securing official or other confirmation.

"According to information obtained through the London tanker market," the Bureau of Mines reported, "the report that Mexican oil has found an outlet in Germany is confirmed. Several tankers have been fitted out to the account of German firms."

The bureau's information explained that bills of lading on the oil have called for eventual discharge of the

cargoes in English or European ports, but bureau officials said that information from Paris is that "it is probable that the real destination of these vessels is Germany."

That the two parties to the deal were anxious to avoid undue publicity of their plans is indicated by the fact that the charters were not placed on the London market as is ordinarily done, but the contracts for ships, flying various European colors, were made directly with the owners.

Standard takes over Pantepec Venezuela block

W. F. Buckley, president of Pantepec Oil Company of Venezuela announced last week that an option to develop and market the oil from the company's 800,000 acres of concessions in Venezuela has been exercised by Standard Oil Company of Venezuela.

A contract previously entered into between the two companies provided that the Standard company drill 6 wells by June 29, 1938, and that on or before August 29, 1938, the Standard company select one of the following options: To abandon the enterprise and turn the properties back to the Pantepec company; to drill 14 additional wells within three years from the date of delivery of Standard's notice of its election, and take a one-half interest in the properties and production, or to drill 34 additional wells within four years from the date of the notice and take a two-thirds interest in the properties and production.

The Standard company elected to take a one-half interest. It will produce and market the oil from these concessions and is obligated to buy the Pantepec company's share of the oil at the well.

Lispe expected to produce most of Hungary's needs

John F. Montgomery, American minister located at Budapest, Hungary, in speaking of wildcatting going on in the neighborhood of the relatively new oil field in the Szontadorjan-Lispe basin of that country, reports to the United States Bureau of Mines: "It is believed that this one field will provide a considerable part of Hungary's total requirements."

Three wells have been completed in Szentador-Lispe field proper, two of them being oil wells producing from 110 to 120 metric tons (about 770 or 840 barrels) of crude per day, and the remaining one producing only gas, which is used for fuel. Gasoline content of the oil is estimated to be about 42 percent.

Negotiations between European Gas & Electric Company and the government, having as an objective the erection of a refinery, failed, with the result that the producing company is expected to sell Hungary the output of its wells. The company had contemplated building a refinery at Nagykanizsa.

Canadian Fields

Alberta Conservation Board calls for nominations.

Southeast outpost of Turner Valley looks good.

Highwood-Sinclair structure may be new oil field.

As a preliminary step in its program to conserve Alberta's oil and natural gas resources, the newly created Alberta Oil & Gas Conservation Board last week called for nominations from buying companies stating the amount of Turner Valley crude or natural gas they will undertake to buy at current field prices. These figures will determine a new potential to be established for all producing wells in the field, which will be revised as new buying companies enter the field or present purchasers revise their takes.

Differs from Present System

The plan, when placed into effect, will differ from the present system in that at present only companies having purchase contracts with the Royalite Oil Company, Limited, and the British American Oil Company, Limited, are subject to proration. Several other companies are marketing their crude independently and producing their wells in accordance with their individual demand.

Naphtha Producers Affected

Of greater significance in the long run will be the curb placed on naphtha producers on the east flank, which are currently wasting about 200,000,000 cubic feet of natural gas in the production of between 1000 and 2000 barrels of naphtha daily. The gas wells, uncontrolled operation of which is blamed for a fast depleting gas pressure in the crude area, will be allowed only to produce in accordance with the demand for natural gas and without regard to naphtha production.

Provincial government engineers have started a series of tests to determine new potentials of Turner Valley crude producers. A production rate of each well is being taken through a two-inch orifice placed at the opening of the well for a period ranging from three to 24 hours. In the past, potentials were established at two-thirds of the well's open flow on the eleventh day of a government test. The new system, inaugurated by W. F. Knode, former Texas petroleum engineer and now chairman of the board, is expected to result in increased allowable production for small wells.

Other members of the board are C. W. Dingman, former director of the Petroleum & Natural Gas Division of the Alberta Department of Mines, and F. G. Cottle, formerly auditor for the Alberta Public Utilities Commission.

Southeast Outpost Looks Good

In the revived north end of the Southwest Flank of Turner Valley, principal crude field in Alberta, Canada, Mercury Royalties, Limited's 1, Legal Subdivision 8, Section 5, Township 19, 2-w5, stopped drilling at 6666 feet, 200 feet in the porous section of the Madison limestone, where good production is indicated. The test, less than a half mile south and east of Vulcan-Brown Petroleums, Limited's 1, which was recently completed with a potential of 3472 barrels daily, cleared itself of rotary drilling fluid, indicating better than average gas pressure for recent Turner Valley completions. A production test is underway.

The recent highly successful completion of the Vulcan-Brown well, which apparently will be augmented by the Mercury Royalties, will bring considerable drilling activity to an area that had been neglected during the past year in favor of drilling to the south and west. One mile west of Mercury Royalties well, on Legal Subdivision 8, Section 6, Township 19, 2-w5, East Crest Oil Company Limited's 4, was installing rotary equipment for deepening from its present bottom at 2340 feet.

Dominion's Deepest

Two miles west of production on the Southwest flank, Okalta Oils, Limited's 6, Legal Subdivision 3, Section 30, Township 18, 2-w5, was drilling at 9435 feet last week, more than 400 feet below the previous depth record for a British Empire oil test. Cores taken higher up indicate the top of Madison should be encountered at about 9500 feet, and the hole may be carried to 10,000 feet. Results of the test will have a great influence on westward development of Turner Valley. Rumors that the key test would be shut down when the top of the Madison is reached and the rotary rig moved for use on the company's No. 7, were denied by W. S. Herron, president. The No. 7, Legal Subdivision 3, Section 16, Township 18, 2-w5, was drilled to 3050 feet with standard tools at which point it was standing cemented last week.

Key test on the northwest flank, Phillips Petroleums, Limited's 1, Legal Subdivision 16, Section 16, Township 20, 3-w5, was drilling in the Blairmore at 7400 feet. The well is drilling considerably deeper than had been expected.

Watch Royalite's No. 32

Watched as the first test in the Madison limestone south of the Highwood

[*Continued on page 62*]

MEN IN THE INDUSTRY'S NEWS

IVAN S. SALNIKOV, division superintendent for Carter Oil Company at Fairfax, Oklahoma, has been advanced to chief engineer at the company's Tulsa office. He succeeds Michael L. Haider, recently transferred to the petroleum engineering staff of Standard Oil Company of New Jersey. Salnikov, a native of Russia, came to America in 1923 and took graduate work at the Colorado School of Mines.

DONALD C. BARTON, head of the geological research department of Humble Oil & Refining Company, Houston, and president of the American Association of Petroleum Geologists, was luncheon guest of the West Texas Geological Society August 1 at Midland. He conferred with Berte R. Haigh, geologist for the University Lands and general chairman of the committees that are making arrangements for the mid-year meeting of the AAPG at El Paso September 27 through October 2.

JESSE L. BULLARD, who for 12 years was in the scouting department of the Shell Petroleum Corporation, has terminated his service with the concern to become an independent operator. He was in San Antonio for a number of years as scout for that district. About a year ago he was transferred to Centralia, Illinois, to take charge of the scouting division newly created in that area. He will retain Centralia, Illinois, as his headquarters.

ERNEST C. ARNOLD, who has been district petroleum engineer for the United States Geological Survey in Oklahoma City for nine years, will become deputy supervisor with headquarters at Roswell, New Mexico, September 1. The territory includes New Mexico, Arizona and parts of Utah and Colorado. His successor at Oklahoma City will be E. M. Pilkington, who has been in the office for several years.

R. F. McCONNELL, assistant general manager of sales of Standard Oil Company of Indiana, has been elected to the seat on the board of directors which was vacated by the death of R. H. McElroy, vice president in charge of traffic, on June 25. The new director has had 31 years of service in the sales department of the company. He was first employed as a clerk in the Detroit office in 1907. After serving in various subordinate capacities, he was transferred to Wichita, Kansas, in 1915 as chief clerk. In 1921 he became assistant manager at Grand Rapids. In 1922 he was transferred to Detroit in the same capacity and in 1924 he was promoted to manager at South Bend. He returned to Detroit as manager two years later and served there until 1929, when he became assistant general manager on the Chicago headquarters staff.

FRANCISCO MUNOZ DE LA REGUERA, petroleum engineer, has assumed governmental duties as chief of the southern oil fields of Mexico, with headquarters at Puerto Mexico, Vera Cruz.

HENRY E. GROSS has been appointed associate professor in petroleum engineering at Texas A. & M. College for the coming year. This brings the staff of that department to first place in the United States with four full professors and two associate professors. It already ranked first in size with 779 students enrolled for that course in the 1937-38 term, according to Professor Harold Vance, department head.

Professor Gross received his B.S. degree from Missouri School of Mines; his M.S. degree at the University of Illinois; and the degree Engineer of Mines from Missouri School of Mines. For the past two years he has been teaching at University of Oklahoma.

REX LOVEWELL, geologist for the Guardian Oil Company, Limited, returned to Calgary, Alberta, last week following a trip to the company's wildcat drilling in the northwestern section of that Canadian province.

J. F. O'NEIL, Oil City district superintendent of South Penn Oil Company, July 30 was awarded a plaque for the best safety record of any district in the company's operations.

DON O. CHAPELL, geologist for the Transwestern Oil Company, of San Antonio, Texas, last week established Illinois production offices for the company in the Klohr Building at Mattoon. Besides Chapell, those who will be connected with the office are L. J. Handy, head of the land department; H. S. Thomas, head of the paleontology department, and Jack Deardorff, scout.

R. C. LAFFERTY, president of the Appalachian Geological Society, discussed West Virginia gas deposits, with emphasis on the deep Oriskany sand, before a Charleston business men's group last week.

JAMES TEMPLEMAN, in charge of the Wichita, Kansas, office for Deep Rock Oil Corporation, has been transferred to Illinois where the concern is opening a district office. The Wichita office has been closed and most of its personnel will be moved into the Illinois territory.

R. A. BROWN, JR., Calgary, was named to the directorate of Brown Oil Corporation, Ltd., succeeding L. H. Fenerty, when shareholders held their annual meeting last week in Calgary. Directors re-elected are R. A. Brown, Sr., R. J. Manion, S. J. Bird and H. A. Howard.

TOM BERRY, JR., of Mullendore, Berry & Berry, is in the Illinois basin and may direct several tests in that area this fall. The company had engaged in some Illinois activity prior to last winter, when it pulled out in favor of Oklahoma and Texas fields.

J. I. DILSAVER is general chairman of the executive committee planning an "oil men's roundup" at Mattoon, Illinois, for September 10. Assisting him are Everett F. Kent, Fred H. Kelly, Joseph Heiman and J. Logan Gover.

L. H. MACK, formerly with General American Oil Company at Gladewater, Texas, has been named chief engineer for Bell Oil & Gas Company. He will make his headquarters at Overton.

JOHN I. McFARLAND, president, heads directors of McDougall-Segur Exploration Company of Canada, Ltd., elected during the company's annual shareholder's meeting at Calgary, Alberta, last week. Other directors named are T. M. Carlyle, J. McKinley Cameron, K. C., F. M. Graham, O. H. Patrick, F. G. Garbutt and A. G. Graves.

EDWIN B. COX and JAKE L. HAMON are moving their headquarters from Ardmore, Oklahoma, to the Magnolia Building in Dallas, Texas.

SAMUEL F. PRATT, European manager for Pennsylvania Grade Crude Oil Association, is in the United States on a combined business and vacation trip. Accompanied by his wife, he was at the Oil City, Pennsylvania, headquarters of the organization last week. He plans to return to London in September.

EDGAR GARDNER HUEBNER, formerly with Reed Roller Bit Company in Houston and with Humble Oil & Refining Company at Baytown, Texas, sailed recently for Maracaibo, Venezuela, to work for Lago Petroleum Corporation in one of its machine shops.

WILLIAM M. IRISH, III, vice president of Atlantic Petroleum Purchasing Corporation, Dallas, plans to spend the remainder of the month vacationing with his family in North Carolina and Tennessee.

JOHN H. LANGSTON, chief scout for Sun Oil Company, Dallas, spent the past week, accompanied by his wife and daughter, touring the scenic spots along the Louisiana and Texas Gulf Coast.

JOHN LEO (JACK) McMAHON, production manager of the West Texas-New Mexico division of The Texas Company with headquarters at Fort Worth, departed August 1 on a leave of absence that may be extended until the end of the year. His health has not been up to par since recovering from serious injuries received several years ago in an auto accident, and he plans to spend several months resting in New Mexico and Colorado. Howard S. Cole, Jr., assistant to McMahon, will be acting manager during the latter's absence.

W. F. HERBERT, petroleum engineer for The Texas Company in South Texas, has been transferred to Fort Worth to fill a similar position in connection with the company's West Texas operations.

MELVIN CAMPBELL, assistant to the manager of the land and geological department of Sun Oil Company, Dallas, is vacationing in the Yellowstone National Park.

HOWARD HUGHES GIVES

Industry Credit

FOR MAKING FLIGHT POSSIBLE

HOWARD HUGHES, holder of the speed record for the round-the-world flight and recipient of honors galore in recognition of the recent 91-hour accomplishment, at a homecoming banquet in Houston July 30 indirectly gave credit to the oil industry for making the feat possible.

He told those present at the banquet this:

"Anything I have done which you may consider worth while has been made possible by the genius of my father and by the faithfulness, diligence and enterprise of the men who comprise the various parts of the company which he created." (He was referring to Hughes Tool Company.) "And I do not refer to a few; I mean every man and woman who is a part of those companies; and the loyalty of our customers who have stuck with us through thick and thin, when our product was good and when it was not so good."

And the law of compensation, or reciprocity, never more effectively demonstrated its inevitableness than in the case of young Hughes, for just as the oil industry through purchases of the tool company's products throughout the years made possible the financial background prerequisite to realization of an ambition to make the fastest trip around the world, so does the flight itself immediately broaden the scope of what is potentially one of the greatest markets for petroleum products in the future. Not only that, but the flight,

Howard Hughes, in typical brown hat, responds to ceremonies dedicating Houston's airport, named after the flyer in recognition of his record breaking trip around the world. The gentleman to the left is Walter B. Pyron, executive vice president of Gulf Oil Corporation who heads the chamber of commerce's aviation committee. Below: 250,000 Houstonians welcome Hughes home. In the rear seat of the car with Hughes are Lieutenant Governor Walter Woodul at left and Mayor R. H. Fonville at right.

THE CREW OF RECORD BREAKERS

Left to right: Richard N. Stoddart, radio engineer; Harry P. Connor, navigator; Lieut. Thomas A. Thurlow, navigator; Howard Hughes and Ed. Lund, flight engineer.

done with standard equipment similar to that in use on scores of standard airliners today, instills a public confidence in air travel that brings closer by years the day when airplane fuel will constitute a major factor in world petroleum consumption figures.

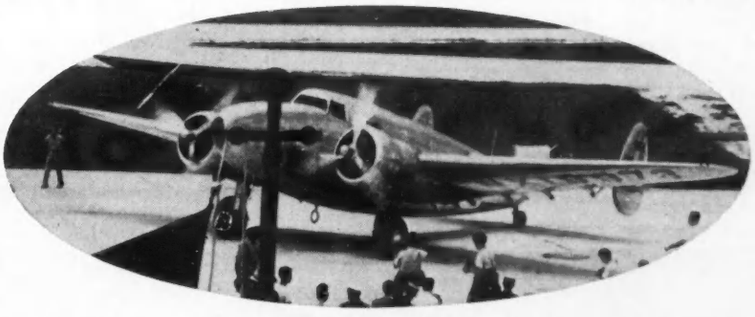
The oil industry seems to have obtained in Howard Hughes, quite by accident, a good will ambassador for the future aviation gasoline market who has accomplished more almost overnight than the industry might have accomplished in eons of educational advertising. And the aviation industry derives the same magnificent generator of public confidence quite equally by accident.

One vein of thought alone expressed by Hughes in his speech of response to the welcome home accorded him by Houstonians should have almost incalculable value to the oil and aviation industries. He said in effect:

"The plane which I used was not designed by me, nor by any member of my crew. It was just the plain, ordinary ship most of you use in flying from city to city in the United States. The only things in it not incorporated in regular stock models consisted of a couple of extra gasoline tanks. And the pilots that fly you over those airlines are far better pilots than I am. Why, I couldn't even get a job as first pilot on any airline in this country. I would have to serve a long apprenticeship as a second pilot before I could hold a first pilot's job."

Houston probably never gave any man the ovation it accorded Hughes when he landed at the airport the afternoon of July 30. The first honor showered was to name the airport after him. It will hence be known as Howard Hughes field. The second was a parade in which it was said the public acclaim was greater than that ever given a visiting president. Then came an afternoon smoker. The honors were climaxed with a banquet which overflowed the city's largest banquet hall.

Governor James V. Allred conferred two commissions on Hughes, one making the young flyer a colonel on the governor's staff, the other making him a commissioner from Texas to the World's Fair in New York and to the San Francisco Exposition, both of which take place in 1939. He said Hughes was the humblest and most modest man he had ever met. In this connection, after Hughes had told of the trip, giving practically all the credit to his crew, John T. Scott, chairman of the board of the First National Bank, who acted as toastmaster at the banquet, told the audience: "After you listen to Howard, you might think he wasn't even on the ship. But don't forget that he really was."



The plane in which Hughes and his crew flew from New York around the world and back to New York in 91 hours, almost twice as fast as the solo trip over almost the same route made several years ago by Wiley Post.

In speaking of the confetti thrown at the parade, Mayor R. H. Fonville of Houston told Hughes that he had heard it cost New York $100,000 to clean the streets after Hughes' parade there. "I don't know what it will cost us to clean up the Houston streets after today's parade, but they certainly are in a mess," he said, and went on to tell that he had been informed that three of the baby boys born in Houston that morning had been named Howard Hughes.

Colonel Walter B. Pyron, vice president of Gulf Oil Corporation and chairman of the aviation and advisory committees of the Houston Chamber of Commerce, who acted as master of ceremonies, introduced Hughes and his crew at the airport, where Hughes told assembled employees of Hughes Tool Company and Gulf Brewing Company, "If it weren't for you people I'd probably be pushing a plow." The crew, consisting of Ed Lund, flight engineer; Richard N. Stoddart, radio engineer; Harry P. Connor, navigator; Lieutenant Thomas A. Thurlow, navigator, and Albert I. Lodwick, flight manager, seemed imbued with the same type of modesty when welcomed at the port by Lieutenant Governor Walter Woodul.

Mayor Fonville's talk at the banquet

EXECUTIVES OF HUGHES INTERESTS

Left to right: H. W. Fletcher, chief engineer, and S. P. Brown, vice president, Hughes Tool Company; Howard Hughes; R. H. Kelley, attorney; Noah Dietrich, vice president, and Chester S. Johnson, secretary-treasurer, Hughes Tool Company.

was followed by that of Hiram Clarke, Jr., vice president of the Chamber of Commerce, who stressed the importance of the added confidence of the public in air travel given by the flyer's record flight. "The greatest compliment I can pay to this young man is to say he reminds me of his father," Clarke declared.

Robert H. Kelley, attorney, also stressed the importance of confidence in flying generated by the flight.

Hughes also holds other flying records, including the United States land plane speed record of 352 miles per hour and the coast-to-coast flight record wherein he averaged 327 miles per hour for the 7 hours and 28 minutes required.

In telling of Howard Hughes' background, Jesse Jones, chairman of the Reconstruction Finance Corporation and also of Houston, recently said: "No finer people ever lived than Howard's parents. His father also was a genius and possessed an intrepid spirit. Hughes, Sr., came to Texas with the discovery of oil at Spindletop in 1900. He soon decided that drilling equipment was crude and he proceeded to develop the rotary bit for drilling through rock. Young Howard was left an orphan at the age of 18, and could have been a playboy with more money to spend than he could spend, but that did not appeal to him.

"Bent upon trying his own wings," Jones continued, "it was rather natural that Howard undertake the production of motion pictures, probably the most fascinating of our newer industries, a dozen years ago. Without experience, but with characteristic confidence and determination, he produced some of the best pictures of those years. These included particularly 'Hell's Angels,' a war picture showing something of the part of aviation in the World War, and picturing vividly what we may expect in the next. I also liked his 'Two Arabian Knights.' These two pictures," Jones said, "so widely different in theme and appeal, demonstrate in some measure the scope of Howard's imagination. Succeeding in this new but highly competitive field, he turned to aviation, and continues in restless search of the unattained, the out yonder."

It was in answer to Jesse Jones' welcoming speech in Washington that Hughes closed with the toast:

"Gentlemen, I give you an industry with limitless boundaries, with possibilities beyond the scope of the most fantastic imagination, the true infant industry of this century, American aviation."

Socony-Vacuum dividend

At a meeting today the directors of the Socony-Vacuum Oil Company, Inc., declared a dividend of 25 cents per share, payable September 15, 1938, to stockholders of record as of August 18, 1938.

The company estimates at this time, in advance of final figures, the consolidated net income, including equity in undistributed earnings of non-consolidated affiliates, of approximately $19,000,000 for the first half of 1938 as compared with $32,000,000 reported for the same period last year. The earnings reported are after providing for estimated income taxes.

Troubled Waters Promote Oil Leasing

WHEN the record flood of January, 1937, swept the lowlands along the Ohio river and its tributaries, operators, drillers, tool dressers, supply house workers and others connected with the oil field in the Owensboro area put on their raincoats and boots and took a leading part in the rescue work throughout this section, bringing hundreds of refugees to this dry spot where they were cared for until the water receded.

Among the oil men who gave their time, day and night, to this task until all residents of the lowlands were safely accounted for was Wes K. Snyder. His part was to operate an outboard motor boat from concentration points in the flooded sections to high ground from where the refugees were transported by automobile to Owensboro.

While piloting the small craft in the Birk City area—then only a farming community but now the center of Western Kentucky's growing McClosky oil field—Snyder had as his passengers on one trip Mr. and Mrs. A. R. James, who were forced to leave their 148-acre farm.

When Mrs. James left home she took an oil cloth from a table and used it to keep the rain off her head and shoulders. At the end of the boat trip, Snyder suggested that Mrs. James leave the oil cloth for others yet to be brought out. This she did.

Last April, after Hoosier Drilling Company's Blackwell discovery well blew in about a mile south of the James farm, representatives of oil operating companies began their quest for leases. Several went to the home of Mrs. James, whose husband had died early this year, and tried to get an oil and gas lease on her land for a five-year period. She held out for a well in 30 days plus $1,000 for the lease.

Then came Snyder, representing Globe Oil and Gas Company of Lima, Ohio, Frank Zogg, A. J. Stewart and Joe Lang of Owensboro. When he saw Mrs. James he immediately recognized her.

Instead of asking for the lease, according to Mrs. James, Snyder "just grinned" and asked: "Don't you recognize me?"

"I told him I had seen a lot of oil men who wanted my lease but I wouldn't let anyone have it for five years."

"He just kept grinning and asked: 'Mother, don't you remember me? I took you out during the flood.'

"Then I knew him and the first thing I said was: 'where is my oil cloth.'"

Snyder was unable to produce the oil cloth, but he got the lease. And now Mrs. James doesn't care about the oil cloth, for Snyder and his associates have drilled in a well on her farm that swabbed 15 barrels per hour.

Incidentally, the well extended the Birch City field three-fourths of a mile northeast.

Mrs. A. R. James, 66-year-old widow, with Wes K. Snyder, who took her to safety during the 1937 Ohio River flood, and who with his associates has drilled in a producing well on her farm that extends the Birk City field of Western Kentucky three-quarters of a mile.

THE WEEK'S NEWS SUMMARIZED

Allowables

August allowables are mildly encouraging. Combined quotas of the six leading producing states are 128,016 barrels daily, or 4.1 percent, below the indicated market requirements for domestic crude, as estimated by the Bureau of Mines. Those states yield over 90 percent of the national output.

Some of the states, notably California, probably will fail to hold actual production within the official allowables; but even so, actual production for the month likely will be held down to or below market demand, and some further reductions of excessive crude and refined oil inventories may be expected.

Under July allowables, both crude oil and gasoline stocks were moderately reduced.

The August allowables, however, are not quite as strict as those of July.

Markets

The markets remain in fairly good condition, although weak in certain spots, for several reasons.

The crude market still is oversupplied in some districts, including particularly the East Texas field, K-M-A field, and Southern Oklahoma, and fears of a possible moderate crude cut in East Texas persist.

Gasoline stocks failed to show the usual seasonal decline in the final week of July, as refinery output was larger, under the influence of more liberal crude production allowables. This interruption of needed withdrawals from gasoline storage possibly was partially responsible for some weakening of prices of that product at the refineries in some districts of the Mid-Continent.

Venezuela Pact

Reduction of excise taxes on oil in the projected Venezuelan reciprocal trade agreement would violate President Roosevelt's philosophy of conservation and might wreck the programs of the producing states, the committee for reciprocity information was warned this week by the Independent Petroleum Administration of America.

Coincident with the filing of the association's brief, the West Virginia coal operators asked for an increase in the levy on imported oil to at least 3 cents per gallon, contending that foreign fuel oil was destroying the market for millions of tons of domestic soft coal.

The independent producers, fighting the granting of any concession on oil, pointed out that Congress has repeatedly gone on record as favoring the imposition of the excise taxes and that its action has been approved by the president.

Mexico

Mexico has found a market in Germany for some of the surplus oil accruing from its expropriation of American and British properties, according to information secured by the Bureau of Mines. Details of the deal are not known, but it is understood to be a barter arrangement under which Mexico will be paid for the oil in German manufactures, at least in part.

The situation with respect to compensation for the expropriated properties was not improved by Mexico's refusal to arbitrate previous expropriations of farm lands. While not refusing outright to make payment for properties taken over, the Mexican government holds that it and not the United States is the proper party to fix the compensation and its method of payment.

Taxes

The various taxes now imposed by the federal government on oil and its products will remain with us for an undetermined period, the treasury having decided that the yield from the "nuisance" levies is too important to permit their abandonment.

Due to expire June 30, next, unless extended by an act of Congress, the taxes on gasoline and lubricating oil alone brought in over $235,000,000 in the last fiscal year, and the treasury has practically determined to ask their continuance.

Earnings

Oil companies have displayed better than average earning power this year, profits having declined materially, but not as much as for concerns in many other lines.

A compilation of results for 13 oil companies indicates that their aggregate net profit in the first six months of this year was 39.4 percent less than in the similar period last year.

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Allowable Picture

August allowables are more nearly equal to Bureau requirements estimate . . . Oklahoma body makes plea for stripper wells . . . Texas-Oklahoma hearing set

THE allowable picture for August is moderately promising, although not quite as favorable as that of July.

The six leading producing states, yielding currently over 90 percent of the nation's crude output, adopted August allowables which together are 128,016 barrels a day, or 4.1 percent, lower than the Bureau of Mines estimate of daily requirements of domestic crude during the month, as shown in the accompanying table, giving details by states.

In July the six leading states were somewhat further below the Bureau of Mines recommendations, the allowables having been 143,283 barrels, or 4.7 percent, under indicated market requirements.

Under the July allowables, it was possible for the industry to reduce crude oil stocks several million barrels in addition to making steady withdrawals of gasoline from storage, although the usual seasonal building up of fuel oil inventories was in progress.

No solution found for Southern Oklahoma plight

No change in allowable and no solution for pipe line proration in 14 fields in Southern Oklahoma came out of the delayed order of the Oklahoma Corporation Commission August 1. The allowable was left at 428,000 barrels daily and a paragraph of the order was devoted to the plight of stripper-well areas as follows:

"The commission further finds that many of the wells in the non-prorated or stripper areas in the state of Oklahoma must be produced at full capacity in order that said wells will not be prematurely abandoned, thereby causing waste, and that the purchasers of oil should take from the stripper or non-prorated areas all the oil that can be produced before production is taken from the flush or prorated fields; that the full production of said stripper areas is necessary not only to prevent waste but is of vital interest to the producers of said areas and to the state as a whole."

Issuance of the order was delayed from July 27 to give producers of 14 fields in Southern Oklahoma further time for seeking outlet for their crude. No other purchasers could be found to take the oil that was given up August 1 by Carter Oil Company and Pure Oil Company, the former reducing its takings to 5 barrels per well and the latter taking but 40 percent of its former average purchases for early months of the year.

Proration in the stripper fields was shunned by the commission because it was anticipated that any reduction in purchases would result in increased buying in other states with the result that more market would be lost to Oklahoma.

Concerning the situation in the stripper fields and proration for them, W. J. Armstrong, chief conservation officer, said:

"Whenever the time comes that this commission has to prorate that kind of oil, I think it's time we went out of the prorating business."

Hope for solution in Southern Oklahoma now lies in rehabilitation of the old refining plants of Wirt Franklin Petroleum Corporation at Ardmore. It has been purchased by W. C. Berry of Kansas City and Dr. Sidney Born, professor of petroleum refining at Tulsa University. The transaction was approved by the federal court at Oklahoma City and the purchasers announced that it would be put into operation. Formerly it operated on Healdton crude oil, one of the fields now under restriction of purchasers.

Low gravity and sulphur content are causes for the restriction, as purchasers whose total runs have been reduced find it impractical to continue to take former amounts of this oil, since its influence on the grade of a total stream of low amount is such that eastern refining plants decline to accept it.

State Allowables for August Below Bureau of Mines Recommendations

STATE	Bureau of Mines Recommendation	State Allowable Beginning of Month	Excess or Deficiency of State Allowable	Percent Excess or Deficiency
California	649,300	*615,000	— 34,300	— 5.3
Kansas	169,300	165,500	— 3,800	— 2.2
Louisiana	256,100	256,715	+ 615	+ 0.2
New Mexico	112,300	107,000	— 5,300	— 4.7
Oklahoma	529,700	428,000	—101,700	—19.2
Texas	1,377,800	†1,394,269	+ 16,469	+ 1.2
Total six States	3,094,500	2,966,484	—128,016	— 4.1
Other States	343,600	.....	.....	.....
Total United States	3,438,100	.....	.....	.....

* Recommendation of Central Committee of California Oil Producers.
† Average daily production permitted for 7 day week as a whole; actual daily allowable higher, but fields shut-in on Sundays.

Texas hearing August 19; Oklahoma August 25

The Texas Railroad Commission has scheduled its next monthly statewide proration hearing for August 19, at Austin.

The most important question before the commission probably will be continuation of the Sunday shutdown. If demand declines too rapidly during September, the commission may find it necessary to add to the number of days wells are to be closed in if the policy of keeping supply and demand in balance is continued.

Hearing to set September allowables for Oklahoma fields will be held August 25 at Oklahoma City by the Oklahoma Corporation Commission.

Texas field hearings

A hearing to consider blowouts in the Agua Dulce Field, Nueces County, has been set by the Texas Railroad Commission for August 16 at Austin. On August 22, the commission will hold a hearing at Austin on the Duster area, Comanche County, to determine whether this area should have special rules governing spacing, drilling and operation of wells.

At a hearing at Austin on August 24, the commission will consider revision of casing rules in the Turkey Creek field, Nueces County. Special attention will be given to wells producing from a 3800-foot horizon.

Illinois governor accused of restricting independents

The attitude of Governor Henry Horner's administration toward Illinois' booming oil industry has been interjected into that state's political campaign. Declaring that administration measures introduced at the recent special session of the legislature, but not passed, would have "destroyed the southern Illinois oil fields," Assemblyman Richard J. Lyons, Republican candidate for the senate charged that the state administration has attempted to protect large pipe line corporations at the expense of Illinois independent operators and farmers.

"Every acre of Illinois land is potential oil producing land, and any effort on the part of the governor to place restrictions upon the independent producers means they will go elsewhere and not explore the Illinois basin," Lyons declared. "It is our duty, it is the duty of the governor, to encourage small independent producers to come into Illinois to help farmers and landowners to bring forth the oil that underlies their land instead of attempting to destroy it as he failed to do in the last session of the legislature, and, no doubt, will try to do again next January, when the legislature convenes."

Oil at the Capitols

"Nuisance" taxes on oil to be continued . . . Coal interests ask higher import taxes on fuel oil. Vigorous fight against Venezuela pact continues.

U. S. Treasury wants all taxes on oil continued

Continuation of all present taxes on oil and its products will be asked of Congress next year by the Administration, it was indicated August 4 by Acting Secretary of the Treasury McGill.

If any changes are made, it was intimated, they will be in the shape of increases in rates rather than in repeal.

The Treasury head's views were made known in response to requests for clarification of conflicting reports regarding the so-called nuisance taxes, which it has been rumored would be permitted to expire next June.

Pointing out that present estimates place the federal deficit for the current year at approximately $4,000,000,000, McGill made it clear that no thought was being given to the abandonment of any taxes.

I.P.A.A. vigorous in Venezuela pact opposition

Reduction in the excise taxes on imported oil in the negotiation of the proposed reciprocal trade agreement with Venezuela may wreck the conservation program of the oil producing states, the committee for reciprocity information was warned this week by Russell B. Brown, general counsel of the Independent Petroleum Association of America.

The opposition of the independent producers to any reduction in the taxes was expressed in a brief filed with the committee by Brown, in which it was pointed out that approximately 50 percent of the current oil imports from Venezuela are controlled and imported by a single American company and a reduction in the taxes would not directly improve Venezuelan export trade.

"We believe your committee has a heavy responsibility to determine whether the values to labor, to industry, to the consuming public and to the public revenues which have arisen from these excise taxes should be maintained or whether they should be exchanged for some trade advantages which have not been disclosed to us," he declared in his brief.

"The present excise tax on petroleum products has been one of the bases on which the oil-producing states have built a conservation program which has stimulated exploratory work, increased employment and purchasing power, added to the nation's oil reserves, prevented monopoly, encouraged competition and added substantial amounts to the revenues of local communities, states and the federal government.

"Congress has four times decided in favor of continuing the present situation based upon these excise taxes. Each of the oil producing states relies upon that continuance. The entire domestic petroleum industry is asking that you do not make any change."

Anything which has an adverse effect upon the petroleum industry would constitute a serious blow to the financial interests of the country, the committee was warned.

Further, Brown contended, "if imports of foreign oil are encouraged through a reduction in these excise taxes, a monopolistic trend would be promoted. These taxes, unlike some tariffs, do not tend to create a monopoly but, on the contrary, have been effective agents in preventing monopolistic trends. As part of the national program to prevent uneconomic oversupply they enable the smaller domestic producers to compete with the imported product, which might otherwise be the basis for destructive price wars."

The present taxes, it was asserted, have not served to suppress imports. This was demonstrated by the fact that while in 1931, the year prior to the imposition of the levies, Venezuela produced 119,000,000 barrels of oil, output has steadily increased annually until 1937 it was over 182,000,000 barrels.

Coal men join in plea for duty on oil

Imposition of an import duty of at least 3 cents a gallon on foreign oil was asked of the State Department last week by the domestic coal producers.

Declaring that imported fuel oil had supplanted many million tons of soft coal to the detriment of the latter industry, Arthur B. Stewart, West Virginia mine operator, filed a plea with the department August 3 through Senator Holt of his state.

The coal industry's request was made in connection with a presentation against any reduction of the present excise taxes in the proposed reciprocal trade agreement with Venezuela.

East Timbalier Island in ownership muddle

Rejecting two applications for private leases of approximately 300 acres of oil land on East Timbalier Island, 65 miles south of New Orleans, Secretary of the Interior Harold L. Ickes on August 1 ordered that the lands in question, together with the adjoining islands between Grand Pass Timbalier and Raccoon Pass, be offered for leasing by competitive bids.

At the same time, the secretary overruled protests of the State of Louisiana, Southern Sulphur Corporation and the Gulf Refining Company that the land was state rather than federal property.

The secretary's action was taken in affirming a ruling made July 15 by Commissioner of the General Land Office Fred W. Johnson, rejecting the applications of John F. Richardson, LaFayette, Louisiana, and Charles F. Consaul, Washington, D.C., on the ground that the land was located within a known geologic structure of a producing oil field which, under the law, must be disposed of by competitive bidding rather than through private lease.

Pointing out that the matter was thoroughly explored at a hearing before him, Secretary Ickes held that there was no evidence that the lands involved are outside a known geologic structure but found, on the contrary, that Gulf Refining Company already had developed and produced oil from one well and is drilling a second in Timbalier Bay, adjacent to East Timbalier Island.

At the department it was said the controversy is one of the most unusual cases to have arisen. It involves a long, narrow, sandy island on the Gulf Coast of Louisiana, more than three miles long with a mean width of about 800 feet. During the hundred years of its known history, the island has slowly advanced about 2¼ miles in a northerly direction.

While the state and the companies held the island to be subject to Louisiana sovereignty, Secretary Ickes held that since 1837 the island has been treated by the government as public land, and pointed out that until the state first protested on June 8, last, it had at no time asserted ownership of, or jurisdiction over, the islands.

Passage of Pennsylvania's regulatory bill doubtful

A bill that would revive Pennsylvania's oil investigating commission was given second reading and sent to the appropriations committee by the lower house of the legislature last week, but whether it will be finally passed by that administration-controlled body before September is in doubt.

Called a week ago to act on 24 measures, most important of which were bills designed to halt a grand jury investigation of campaign charges against Governor George H. Earle and 13 associates, legislative leaders have under consideration a plan to recess the special session for a month while a legislative committee "openly" investigates the charges.

Similar to a measure passed by the 1937 Pennsylvania legislature, but found unconstitutional by the state supreme court, the oil measure would set up a five-man committee to probe all phases of the state's oil industry and submit recommendations to the legislature regarding necessity of state regulation. An appropriation of $37,500 is provided, and the committee would have the power to subpoena oil company officials and demand examination of confidential records.

Candidates asked to state stand on oil and gas taxes

Coal operators and miners of Cambria County, Pennsylvania, will ask that political candidates for state offices take a stand on the question of a tax on fuel oil, natural gas and water power, L. F. Crouse, superintendent of the Monroe Coal Company and head of a joint committee of miners and operators, announced at Ebensburg last week. Candidates will be invited to a mass meeting of operators and miners at which the coal problem will be aired. The date of the meeting will be set later, Crouse said.

In Legal Circles

Government attorney criticizes Judge Patrick for freeing defendants in Madison anti-trust trial

THE Department of Justice Thursday challenged the right of Federal Judge Patrick T. Stone in his decision of July 19 at Madison, Wisconsin, to dismiss a verdict of guilty returned by a trial jury in January against a major oil company and 10 oil company officials. Not challenged was the court's action in granting new trials to three companies and 15 other individuals covered by the same jury verdict.

Convictions of another 12 companies and 5 individuals were upheld by the district court at Madison, and the defendants were fined a total of $65,000. An appeal from this part of the lower court ruling has been taken to the circuit court of appeals at Chicago. The jury verdict of guilty was returned against all defendants whose cases were placed before that body by the court after a trial lasting four months.

In argument before Judge Stone last week, John H. Lewin, attorney for the trust division of the Department of Justice, contended that the court's action in dismissing a group of the defendants was without authority of statute or previous court decision. A favorable court ruling on a defense motion to dismiss should have been made before the case was given to the jury, he argued.

Weymouth Kirkland, Chicago, counsel for Standard Oil Company (Indiana), two of whose officials were dismissed, maintained there were an armful of decisions to refute the government's contention. He argued further that the government was tardy in entering its objection to the practice followed; that its point should have been raised when Judge Stone announced his intention to reserve ruling on motions to dismiss and motions for a new trial. The defendants, he pointed out, had their bail discharged and are no longer in the jurisdiction of the court.

The Standard Oil Company attorney termed the government's motion "highly technical" and contended that the court had the power to act as it did. Charles I. Francis, Houston, counsel for Pure Oil Company, pointed out that appellate courts frequently direct lower courts to dismiss defendants, and argued that the same in percent right was held by the lower court in this case.

Pointing out that the jury had been locked up for four months during the course of the trial and that additional weeks or months would have been consumed in examination of the record during which jury members would have remained out of touch with their families and their businesses, Judge Stone asked Lewin, "What's the practicable thing to do; should I have kept the jury locked up all that time?" The court reserved the right to rule on the motion after verdict as a practical, sensible and lawful thing to do."

Lewin, declaring he "realized the difficulty under which Your Honor was laboring," maintained the court could not, "in the face of the law, reform the practice to make it more expedient."

Deep Rock reorganization appealed to high court

Opposition of creditors to the reorganization plan for Deep Rock Oil Corporation will be carried to the United States Supreme Court. A writ of certiorari will ask the higher court to review the case, which has been approved by the federal district court at Tulsa and by the circuit court of appeals at Denver.

The concern was in receivership until a plea for reorganization under the revised federal bankruptcy law brought under the trusteeship of H. N. Greis of Tulsa, June 19, 1934. With but one exception the concern has operated at a profit in each month since then.

Financial Field

Oil Company first half earnings are relatively good

OIL companies have been exhibiting this year better earning power than industry in general, in consequence of relatively stable demand for oils and fairly satisfactory prices received for crude oil and products.

Earnings have been materially lower this year than last year for the oil companies, but the declines have not been as large as those in many other lines.

As shown in detail in an accompanying table, the net profits of 13 companies for the first six months of 1938 were 39.4 percent smaller than in the corresponding period last year.

Contraction of earning power was greater in the second quarter of this year than in the first quarter. The 13 companies in the June quarter of 1938 reported 47.4 percent less profit than in that quarter of 1937.

However, that decline was less severe than for industry in general. The Associated Press some time ago reported that the second quarter profits of the first 157 companies (in all lines) to report earnings were 62 percent below those in the comparable period last year.

The figures given above on the 13 oil companies are fairly representative of results of the industry as a whole, as the list includes several large, integrated companies, as well as some smaller concerns, and the group reflects operations in all sections of the country. It is possible, however, that a more complete list would indicate an even better showing for the industry, as some large concerns operating on the East and West Coasts, not included in the compilation, experienced relatively good operating conditions and correspondingly satisfactory earnings.

Primarily responsible for lower oil company earnings this year have been lower gasoline prices, reduced crude price postings in some exceptional districts, the substantial curtailment of crude oil production in the second quarter, under strict allowables, and sharply lower demand for heavy fuel oils because of the recession.

Most adversely affected have been the companies specializing in refining or larger companies producing relatively small proportions of their crude oil requirements, as product prices have been relatively low, while crude prices have been generally unchanged at former levels.

Conversely, solely producing companies and integrated companies with large crude production have fared relatively well.

Second Quarter and First Six Months' Earnings in 1938 and 1937, for 13 Oil Companies

Profit after all deductions, including interest, depreciation, depletion, amortization, federal taxes, minority interest, etc.

COMPANY	SECOND QUARTER			FIRST 6 MONTHS		
	1937	1938	Percent Change	1937	1938	Percent Change
Atlantic Refining Co.	1,447,000	818,000	— 43	3,440,000	2,866,000	— 16
Continental Oil Co.	4,193,336	1,281,510	— 69	7,884,529	3,086,707	— 61
Houston Oil Co. and Houston Pipe Line Co.	456,046	358,052	— 21	925,413	841,535	— 9
Phillips Petroleum Co.	7,063,443	†3,270,497	— 54	12,679,080	5,585,139	— 56
Plymouth Oil Co.	722,677	625,228	— 13	1,362,996	1,328,120	— 2
Quaker State Oil Refining Co.	491,813	*259,851	.....	879,550	*158,579	.....
Seaboard Oil Co. (Del.)	638,853	437,157	— 31	1,230,218	893,886	— 27
Skelly Oil Co.	1,901,504	613,471	— 68	3,435,918	1,278,241	— 63
Superior Oil Corp.	94,524	82,273	— 13	136,691	194,945	+ 43
Texas Pacific Coal & Oil Co.	‡235,006	‡260,530	+ 11	‡455,506	‡500,748	+ 9
Tide Water Associated Oil Co.	4,368,398	2,742,441	— 37	7,696,701	5,992,705	— 22
Union Oil Co. of California	3,000,000	2,650,000	— 12	5,200,000	4,950,000	— 5
Wilcox Oil & Gas Co.	6,995	75,314	+948	61,684	133,401	+118
Total for 13 Companies	24,619,595	12,954,622	— 47.4	45,388,286	27,493,048	— 39.4

† Based on a comparison of company's report for first quarter of fiscal year and the six months' period.
* Loss.
‡ Before federal income and undistributed profit taxes.

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Since the founding of the Reading foundry in 1902, continuous specialization in pressure steel castings to be used in valves and fittings has brought great development in selection and check of raw stocks, melting equipment and methods, sand analysis, moulding practice, heat treatment, cleaning, inspection and test.

Today the castings are the last word in reliability.

Iron body valve designs developed by Pratt & Cady since 1878 were first followed. Increasing temperatures and pressures have been met with designs that cope with expansion, reduce pressure drops, erosion and stresses.

Reading Cast Valves at first made only of carbon steel with monel trim are now offered in alloy steels and trim materials to combat the creep, seizing and corrosion of the particular service.

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Weed Tire Chains • Welded and Weldless Chain • Malleable Castings
Acco-Morrow Lubricators

AMERICAN CABLE DIVISION
Tru-Lay Preformed Wire Rope • Tru-Loc Processed Fittings • Crescent Brand Wire Rope
Tru-Stop Brakes • Tru-Level Oil Controllers

ANDREW C. CAMPBELL DIVISION
Abrasive Cutting Machines • Floformers
Special Machinery • Nibbling Machines

FORD CHAIN BLOCK DIVISION
Chain Hoists • Trolleys

HAZARD WIRE ROPE DIVISION
Lay-Set Preformed Wire Rope • "Korodless" Wire Rope • Preformed Spring-Lay Wire Rope • Guard Rail Cable

HIGHLAND IRON & STEEL DIVISION
Wrought Iron Bars and Shapes

MANLEY MANUFACTURING DIVISION
Automotive Service Station Equipment

OWEN SILENT SPRING COMPANY, Inc.
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Association Activities

Government control studied by West Virginia Oil and Gas body during "most successful" session of the organization . . . H. A. Wallace new president

PRODUCTION problems and the steady trend toward complete federal government control of industry occupied the more than 500 delegates to the West Virginia Oil & Natural Gas Association's annual meeting in Charleston last week. The meeting was one of the most successful in the history of the organization.

Harry A. Wallace, Jr., United Fuel Gas Company, Charleston, was named president, succeeding Dan S. Keenan, vice president of Carnegie Natural Gas Company, Pittsburgh; W. P. Kerwood, Jr., St. Marys, was elected vice president, and Edwin Robinson, Fairmont, was re-named secretary-treasurer.

Twelve directors were named: W. J. Hightower of Charleston, H. L. Bennett of Wheeling, Scott L. Lowe of Fairmont, and George Ward of Parkersburg, for one-year terms; Wallace A. Gribble of Clarksburg, E. F. Daubenspeck of Parkersburg, George L. Hinerman of Weston, and Hugh Burdette of Charleston, for two-year terms; Rex P. Milliken of Mannington, O. W. Van Petten of Charleston, George W. Keller of Huntington and John P. Flynn of Sistersville, for three-year terms. Selection of the 1939 convention city was left to the directors.

Dr. George W. Dyer, Vanderbilt University economist, Nashville, Tennessee, condemned efforts of the present national administration to sweep aside the guarantees of personal and business freedom granted by the constitution.

Blames Industrialists

"I don't know of a more stupid policy of government than to discourage profits if they're honestly and fairly made," Dyer said. "The reason why conditions exist as they are now, economically and politically, is because men like you have not shouldered the political responsibility that you should."

The speaker added that if a democracy is to succeed, the strong men of business must lead the fight for better conditions, adding that a democracy "that depends on the crowd is going to perdition." Ten depressions previously experienced by the country found the federal government attending to its constitutional functions, placing the responsibility on business leadership to bring the country out of the depressions, Dyer said, adding: "And business leadership has never failed."

A broad view taken by the federal commissions under the present administration as to what constitutes interstate commerce may place natural gas production under federal control through administration of the recently enacted Lea Natural Gas Act, William A. Dougherty, counsel for the Standard Oil Company of New Jersey, told the association.

A provision of the law permitting the federal power commission to investigate production costs, while it does not prescribe rate fixing powers, gives "a great deal of control over the production of gas," Dougherty declared.

"You may be surprised to learn that the federal government deems it a necessary part of its business to reach down into the state of West Virginia, as well as every other gas producing state in the country, and decide what you should receive for gas. The law does not specifically say that should be done," he added, "but there is a possibility, and a strong one, that eventually will take place.

Power Usurped

"I think you will agree with me," Dougherty added, "that when a law directs a commission to investigate the cost of production, even though it has no jurisdiction over the sale, gives to the commission jurisdiction over the question of quantity of gas reserves that are held, and the reasonableness of the delay rentals that are paid, and requires the filing of copies of all leases and royalty agreements, then that law is giving the power commission a great deal of control over the production of gas even though in Section 1 there is the specific statement that it shall not apply to production."

Dougherty added: "It is easy to realize that the government more and more is taking a part in all kinds and character of business. No longer can an employer operate his factory in the way deemed best to him. The government has stepped in and is now determining the underlying policies that must apply. His labor policy can no longer be of his own making, but it is fixed by the government and the wages and hours which apply to his men are now being regulated."

"High Pressure Pipe Lines"

Construction and operating experiences of the Hope Natural Gas Company with its 95-mile 12-inch seamless welded line from Cornwall to Hastings were described by J. A. Clark, engineer with the company, whose paper was headed: "High Pressure Pipe Lines—Design and Experience."

Experience showed, Clark said, that with 1000 pounds pressure at Cornwall and 325 pounds at Hastings, instead of a calculated 63 million cubic feet, 75 million cubic feet of gas were passed a day, giving the 12-inch line the same capacity as a conventional 20-inch line operated at 350 pounds. Tests showed that the high pressure line exceeded the expected capacity as determined by the standard pipe line flow formula approved by the American Gas Association at an average pressure of 300 pounds by 6 percent; at 500 pounds by 11 percent; at 800 pounds by 18 percent, and at 1000 pounds by 24 percent. The company's present machinery did not permit tests above 1000 pounds.

"The average cost for 20-inch in this country will be $24,000 per mile, and 12-inch can be built for less than $15,000 per mile, or, on a 100 mile line there will be a saving in first cost of nearly a million dollars," Clark declared.

Savings Possible

"I feel that a line can be built operating at around 1500 pounds, and powered with the newly developed high speed engines now available, at a saving of $7000 to $9000 per mile of pipe, and $30 to $40 per installed horsepower over previously expected costs, and with no appreciable increase in operating cost," Clark added. "This, I believe, should materially extend the economic range through which gas can be transported, and possibly open up new markets for the industry."

A discussion of the early development of the natural gas industry in West Virginia was given by Fred O. Blue, Charleston attorney, who contrasted its meager beginning with its importance in the present day. "Today there are 11,425 miles of main transmission lines, exclusive of thousands of miles of small lines," Blue said. "Annual rentals and royalties exceed $6,000,000; thousands of employes draw regular wages; the total assessed valuation of natural gas utility properties alone, for taxable purposes in West Virginia, is $158,866,000, and, in addition to the direct taxes on such valuation, such utilities pay to the state indirect taxes of two and a quarter million dollars."

H. S. Brubaker, manager of oil and gas industry sales for the Monongalia System, West Penn Public Service Company, in a discussion of "Electricity in the Oil & Gas Industry," described use of electrically operated pumping units, and discussed small motor-driven compressors at each input well, rather than use of one large compressor serving several input wells in secondary recovery operations.

Early Rotary Discussed

"First Experience in Appalachian Field Drilling with Heavy Duty Rotary Rig" was discussed by J. French Robinson, president of Peoples Natural Gas Company, Pittsburgh, who described experiences in drilling a deep test in Westmoreland County, Southwestern Pennsylvania. Cost of drilling the wildcat to 7600 feet was $12.58 per foot, which compares to costs ranging from $6.44 to $20.59 per foot for wildcat tests drilled in the area with cable tools.

"The rotary is more expensive on the per foot basis," Robinson said, "but it must be remembered that rotary in the east is still in the experimental stage and there is no doubt that costs can be considerably reduced. . . . It has been proven beyond all doubt that the rotary can drill any portion of the geological section which is encountered in the east and with the exception of the Cherty portion of the Onondaga, the drilling can be done more rapidly than with cable tools. The rotary over-

Add up the weight of the drilling string in a 10,000 foot well — then see for yourself what a spectacular stopping job oil country brake lining must do!

There is a definite reason why Thermoid Brake Lining does this job better and more economically. Careful study and analysis of oil country braking problems led Thermoid Engineers to the principle of balanced wear. This principle, followed in making Thermoid Brake Lining for oil field service, has resulted in better brake lining performance and greater economy — as many drillers will testify.

At the time of your next replacement, specify Thermoid. A complete line of Thermoid Products for the oil industry is instantly available at the nearest Oil Well Supply Company store.

For example. Shown below is the actual case history of a set of Thermoid engineered blocks, still going strong after use on these four wells. In three of the four wells listed, the linings have been used for both drilling and coring. Most people agree that coring a deep well is equivalent to drilling two such wells.

FOOTAGE TABULATION

Well No. 1	Drilled and cored	8,200 feet
Well No. 2	Drilled and cored	8,200 feet
Well No. 3	Drilled and cored	10,400 feet
Well No. 4	Drilled (when blocks were removed for examination)	1,200 feet

STOPPED

in a split second with

Thermoid BRAKE LINING

*Dead weight of typical equipment used in drilling a 10,000 foot well. The following items comprise the load that must be stopped by the hoist brakes.

Traveling Block	10,080 lbs.
Hook	4,705 lbs.
Elevator and Links	1,100 lbs.
Wire Line	2,000 lbs.
Drill Pipe and Tool Joints	185,000 lbs.
Drill Collar	1,300 lbs.
Bit	60 lbs.
	204,245 lbs.

(102 tons Dead Weight, not counting the "falling" energy developed by the rig.)

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comes the greatest handicap to the cable tool method in successfully combating gas pockets and caving formations."

In a paper on "Increase in Production by the Use of Acid in Lime Formation," H. W. Ross, assistant sales manager for Dowell Incorporated, Duncan, Oklahoma, told of the recently developed sustained action acid. Its use, he declared, results in better results over a longer period, although initial results are not as outstanding, as it appears to extend into the formation further from the well bore.

Mid-year A.A.P.G. meet expected to draw 1000

The mid-year meeting of the American Association of Petroleum Geologists, to be held at El Paso, September 27 through October 2 will be conducted under the sponsorship of geological bodies and colleges in West and Southwest Texas and New Mexico. The preliminary program provides for technical sessions to be held in the ballroom of the Hotel Cortez, convention headquarters, on September 29 and 30. In excess of 1000 members and guests are anticipated, as El Paso affords a centralized location for delegations from the great Mid-Continent, Rocky Mountain states and California.

A variety of field trips has been arranged to include a tour of the Glass and Franklin mountains and the Marathon uplift region. A special train will make a 2-day trip to Chihuahua, Mexico. A mining and geological trip over the Silver City area will also afford a study of the geology of Western New Mexico. Another to the Carlsbad Caverns, potash mines and oil fields of West Texas and Southeastern New Mexico is expected to be one of the most popular trips.

Berte R. Haigh, geologist for the University of Texas lands, is general chairman of the mid-year session's working committee. Cary P. Butcher, Tidewater Associated Oil Company, and H. A. Hemphill, Magnolia Petroleum Company, are assistant general chairmen in charge of American Association of Petroleum Geologists affairs and West Texas Geological Society affairs, respectively.

Minimum price law is invoked in New York

Socony-Vacuum Oil Company August 3 began signing contracts with dealers in New York, Kings, Bronx, and Queens counties, New York, that will prevent sale of the company's branded gasolines in those areas at less than a minimum retail price. The action is being taken under the Feld-Crawford Fair Trade Act, designed "to protect trade mark owners, distributors, and the public against injurious and uneconomic practices in the distribution of articles of standard quality under a distinguished trade mark, brand or name."

The Socony-Vacuum company stated that the application of the Feld-Crawford Act to the company's branded gasolines has met with the general approval of its dealers in the above four counties.

The company regards the invoking of the act in the four counties as experimental and has not decided if it will seek to invoke it also in other areas.

Market Situation

East Texas and K-M-A are weak spots in crude market . . . Adding of gasoline stocks is causing concern and there are instances of price shading.

Markets feeling some disturbed conditions

The industry's market situation continues generally stable, although some statistical factors have turned less favorable and prices of gasoline and kerosene have weakened slightly in some refining districts of the Mid-Continent.

The crude-oil market likewise is unsteady in several districts of the Mid-Continent.

Apparently both the crude and refined markets have been to some extent unfavorably affected by the more lax control of crude production during July. And similarly, a watchful, waiting attitude now is promoted by the August allowables of the leading producing states, which are not quite as strict as the July allowables.

Nevertheless, the state allowables are comparatively strict, being somewhat below indicated market demand, as forecast by the Bureau of Mines. And it is promised that actual production will be sufficiently low to permit some further withdrawals from crude oil and gasoline storage, which are considered desirable.

Both crude-oil production and refinery runs have continued more than 5 percent under last year's levels, and crude oil stocks in the first half of July were reduced over 2,000,000 barrels, while additional withdrawals appear likely for the latter half.

Gasoline Situation

However, the hitherto steady decline of gasoline stocks has been halted, about 500,000 barrels having been added back into storage in the final week of July. This interruption of the former improvement of the gasoline situation perhaps has been partially responsible for the recent development of signs of weakness of gasoline prices at the refineries.

However, the present gasoline stocks are considerably more moderate than those held some months ago, being about 8 percent larger than one year ago. Substantial withdrawals in the past few months have materially improved the inventory situation. Nevertheless, stocks still are higher than justified, as gasoline demand is running only at about the same level as last year.

Fuel oil prices have continued mostly unchanged, despite the continued steady additions to already excessive stocks, which currently are 33.3 percent higher than a year ago.

Crude Oil Markets

The outstanding weak spot in the crude market still is the East Texas field, where a moderate reduction of the field posting of $1.35 a barrel still is feared. The situation has become increasingly acute in the past week, following the discontinuance of purchases from a considerable number of wells by several independent companies.

The crude market continues relatively weak also in the K-M-A field of North Texas, and in Southern Oklahoma, in both of which areas pipe line companies are prorating purchases.

Despite relatively good demand, offerings of gasoline by Mid-Continent refiners continue free, and in some areas and on some grades the tank car prices have been marked down ⅛ cent within the past 10 days. Kerosene prices also have been lowered similarly in some instances.

Price changes limited to refined products

Prices changes in the oil industry within the past week were confined largely to reductions of gasoline and kerosene quotations at the refineries in some areas of the Mid-Continent and on some grades. Crude oil postings were unchanged.

Gasoline prices continued as before at the Oklahoma-Kansas refineries, but were marked down one eighth cent a gallon by some sellers in the Chicago market, particularly on the lower octane classifications. At the East Texas refineries, too, prices have declined in recent weeks.

The lower gasoline prices reflect the increased offerings of the past few weeks and fewer inquiries, although shipments under contracts continue heavy.

Kerosene prices also have been marked down one eighth cent a gallon lately in the Oklahoma market, while even larger reductions have been made in the Chicago market, in consequence of light demand.

Fuel oil prices have been revised upward in some instances but downward in other cases.

In most instances, prices of refined products late last week were the same as one week previously.

Natural Gasoline

Natural gasoline, grade 26-70, was priced generally in the Mid-Continent markets f.o.b. refineries at 3 cents a gallon, and sales were reported at the same price f.o.b. Breckenridge, Texas.

Gasoline at Refineries

U. S. Motor gasoline ranged in the Oklahoma market last week about as follows: 62 octane and below, 4¾ to 5 cents a gallon; 63 to 66 octane, 5 to 5⅛ cents; 67 to 69 octane, 5¼ to 5½ cents; 70 to 72 octane, 5⅓ to 5¾ cents.

Corresponding prices in the Chicago markets were 4⅜ to 5 cents, 4⅝ to 5¼

cents, 4¾ to 5⅜ cents, and 5 to 5⅝ cents.

In East Texas the most common gasoline, 60-62, 400 end point, was priced generally from 4½ to 4⅝ cents a gallon.

Kerosene prices f.o.b. Oklahoma refineries ranged from 4⅛ to 4⅜ cents a gallon for the 41-43 water white grade, and from 4⅜ to 4⅝ cents for the 42-44 water white grade; and corresponding prices in the Chicago market were 3½ to 4⅜ cents and 3⅝ to 4½ cents.

Fuel Oil

Fuel oil prices were not materially changed in the past week. In the Chicago market range oil was priced from 3⅝ to 4 cents a gallon. The No. 1 white oil was priced from 3½ to 3⅞ cents, and No. 1 straw from 3⅜ to 3¾ cents. No. 2 straw was 3⅛ to 3⅝ cents. No. 3 oil was 3 to 3⅜ cents. No. 5 oils were 65 to 75 cents for domestic and 60 to 65 cents for industrial sales. The No. 6 oil was quoted to the usual industrial customers at 40 to 50 cents a barrel.

Industry's statistical trends are mixed

The oil industry's statistical situation continues generally satisfactory, but has been characterized lately by a less favorable gasoline picture, while fuel oil inventories remain excessive.

United States crude oil production in the week ended July 30 averaged 3,316,400 barrels daily, about 33,000 barrels a day less than in the previous week, and was 7.6 percent lower than in the corresponding week last year.

Crude oil runs to stills meanwhile averaged 3,240,000 barrels daily, having risen 60,000 barrels above the previous week's level, and were 5.4 percent lower than in the comparable week last year.

Gasoline stocks increased about one half million barrels in the week ended July 30, showing the first rise since late March. The increase to 76,864,000 barrels left the stocks 8.4 percent above the level of the corresponding time last year. The gasoline stocks appear too high, considering that demand has been running lately somewhat below last year's levels.

Fuel oil inventories increased again in the week of July 30, rising more than a million barrels to 144,294,000 barrels, at which level they were 33.3 percent higher than one year previously.

East Texas crude cut still is threatened

The complicated market situation in the East Texas field brought on by the withdrawal of independent pipe lines as purchasers and direct competition given by lower-priced oils delivered by two pipe lines from Louisiana and Arkansas remained unchanged the past week.

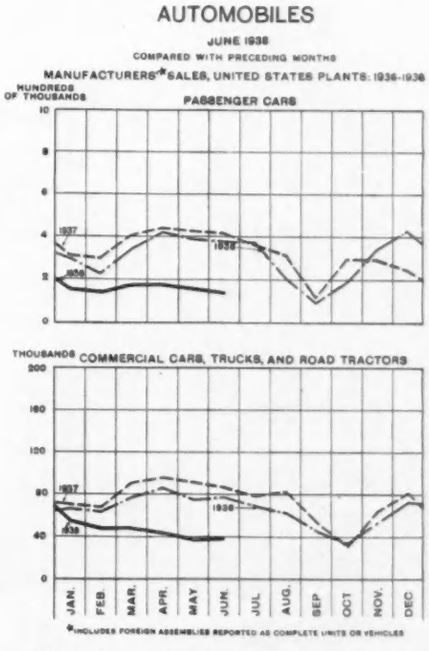
Three of the large independent buyers that curtailed their operations announced the past week that available storage would be offered producers. This arrangement will enable producers to avoid the for-

Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
June 26, 1937	3,529,600	3,235,000	307,679,000	75,427,000	100,395,000
July 31	3,591,900	3,425,000	308,250,000	70,872,000	108,209,000
August 29	*3,731,450	3,425,000	309,506,000	66,997,000	112,111,000
September 25	3,666,300	*3,455,000	307,974,000	65,620,000	116,472,000
October 2	3,647,450	3,400,000	309,036,000	65,266,000	117,076,000
October 30	3,602,950	3,345,000	307,140,000	66,836,000	121,070,000
November 27	3,425,800	3,325,000	304,156,000	68,544,000	121,616,000
December 25	3,492,600	3,245,000	303,294,000	74,437,000	118,659,000
January 1, 1938	3,436,600	3,320,000	303,468,000	77,291,000	118,660,000
January 29	3,357,650	3,170,000	304,286,000	84,844,000	118,793,000
February 26	3,322,800	3,170,000	305,167,000	90,719,000	120,958,000
March 19	3,322,550	3,080,000	306,380,000	*93,192,000	122,067,000
March 26	3,405,600	3,080,000	307,557,000	92,858,000	122,979,000
April 30	3,396,150	3,215,000	307,147,000	91,339,000	128,270,000
May 28	3,098,650	3,150,000	301,583,000	87,946,000	134,315,000
June 25	3,083,900	3,025,000	293,463,000	82,412,000	137,801,000
July 2	3,058,550	3,095,000	291,666,000	80,634,000	138,903,000
July 9	3,296,250	3,095,000	290,469,000	79,893,000	140,587,000
July 16	3,343,100	3,195,000	289,310,000	78,721,000	142,068,000
July 23	3,349,050	3,180,000	.....	76,366,000	143,041,000
July 30, 1938	3,316,400	3,240,000	.....	76,864,000	144,294,000
July 31,1937	3,591,900	3,425,000	†307,139,000	70,872,000	108,209,000
Change in past year	—7.6%	—5.4%	.....	+8.4%	+33.3%

* All time peak. † Stocks, July 17, 1937.



Although automobile manufacturers lately have become more optimistic regarding the outlook for sales in the closing months of the year, the sales continued disappointing in June, latest month for which figures are available.

According to the Department of Commerce, sales in June consisted of 174,667 automobiles, trucks, and tractors, compared with 497,312 in June, 1937, and 452,968 in June, 1936.

For the first six months of the year, sales consisted of 1,203,974 vehicles in 1938, compared with 2,788,298 in 1937 and 2,488,560 in 1936.

feiture of earned allowable production. State regulations ban making up back allowable.

Between 500 and 700 wells in the field are reported to be without a market outlet.

Small property owners that have been deprived of a market are offering to sell their oil at price sacrifices.

An adjustment in the East Texas price posting, currently quoted at $1.35 per barrel, with a transportation and tanker loading tariff of 19 cents per barrel, is generally anticipated. Other fields in Texas, Louisiana and Arkansas that yield comparable grades of crude have made deep inroads in the normal East Texas market because of the differential in the price and delivery costs to coastal terminals.

Taking on K-M-A unconnected wells

Wichita Falls.—Market relief for unconnected wells in the K-M-A deep area is being provided by pipe line companies following the reduction of their purchases to 75 percent of the allowable set for August by the Railroad Commission. The field was allotted a base allowable of 18,817 barrels daily, or 32 barrels daily per well, exclusive of Sunday shutdowns, on the commission's schedule.

The Texas Company, largest purchaser, introduced the pipe line proration in lowering its nominations from 9300 barrels to 8000 barrels daily. Announcement issued by the company promised immediate relief for unconnected wells until its top quota of 56,000 barrels of oil runs per week is filled. Continental Oil Company and Magnolia Petroleum Company also adopted the 75 percent purchase plan. The latter authorized connections for 15 additional wells.

Enforcement of the Sunday shutdown and pipe line proration reduces the well allowable to an average of 21 barrels daily. The second well on a 20-acre unit earns a slightly lower allowable while all wells bottomed below 4000 feet have an extra base allowable of 5 barrels daily.

Crude Production

Slight increase in output follows higher allowables set for August by the several oil producing states.

ALTHOUGH state allowable for the month of August have been slightly raised for most of the principal producing states, domestic crude oil production stood practically at the previous week's level. The daily output averaged 3,331,145 barrels a day, which was 4245 barrels higher than in the preceding week, but remained 106,955 barrels under the Bureau of Mines estimate of market demand for domestic crude during August.

The increase in production was due to larger output in Texas, California, Louisiana, and Oklahoma, four of the five leading producing states. The other among the top five, Kansas, showed a small decline.

Texas last week averaged 1,400,700 barrels daily, which was 3200 barrels a day more than in the previous week, 22,900 barrels more than the estimated demand and 6431 barrels more than the allowable prescribed by the state.

California output was up 900 barrels at 651,200 barrels daily, exceeding the federal allocation 1900 barrels and the recommendation of the Central Committee of California Oil Producers 36,200 barrels daily.

Oklahoma showed an increase of 275 barrels in averaging 422,900 barrels during the past week. That was 106,800 barrels a day more than the federal bureau allocated to the state, but remained under the August allowable 5100 barrels.

Louisiana production rose 1370 barrels, reaching 267,670 barrels daily, which was 11,570 barrels a day more than the Bureau of Mines allocation and 10,955 barrels more than the state allowable.

Kansas production was off 2250 barrels, at 151,725 barrels daily, having fallen under the Bureau of Mines estimate 17,575 and under the state allowable 13,775 barrels daily.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in August)	State Allowable in August	BARRELS DAILY FOR WEEK ENDED August 6	BARRELS DAILY FOR WEEK ENDED July 30
TEXAS—				
Texas Panhandle	.....	.....	73,800	73,200
North Texas	.....	.....	80,100	79,100
West Central Texas	.....	.....	30,200	29,800
West Texas	.....	.....	219,100	218,700
East Central Texas	.....	.....	101,800	102,300
East Texas Field	.....	.....	440,200	439,200
South Texas	.....	.....	240,600	240,100
Texas Gulf Coast	.....	.....	214,900	215,100
Total Texas	1,377,800	1,394,269†	1,400,700	1,397,500
CALIFORNIA—				
Long Beach	.....	.....	57,400	59,300
Santa Fe Springs	.....	.....	33,600	32,300
Huntington Beach	.....	.....	31,600	30,300
Dominguez	.....	.....	24,600	23,000
Ventura Avenue	.....	.....	34,700	35,500
Midway-Sunset	.....	.....	50,600	63,100
Kettleman Hills	.....	.....	66,700	66,300
Wilmington	.....	.....	93,200	91,200
Others	.....	.....	258,800	249,300
Total California	649,300	615,000*	651,200	650,300
OKLAHOMA—				
Oklahoma City	.....	.....	106,775	101,675
Seminole Area	.....	.....	87,200	86,875
Fitts	.....	.....	38,500	39,750
Others	.....	.....	190,425	194,325
Total Oklahoma	529,700	428,000	422,900	422,625
LOUISIANA—				
North Louisiana	.....	.....	81,470	81,200
South Louisiana	.....	.....	186,200	185,100
Total Louisiana	256,100	256,715	267,670	266,300
KANSAS—				
Burrton-Haven	.....	.....	9,425	9,475
Russell County	.....	.....	23,400	22,925
Silica	.....	.....	7,950	9,200
Others	.....	.....	110,950	112,375
Total Kansas	169,300	165,500	151,725	153,975
NEW MEXICO	112,300	107,000	105,800	101,400
MICHIGAN	60,000	.....	54,800	53,600
ARKANSAS	53,900	.....	54,950	57,600
MOUNTAIN STATES—				
Wyoming	62,200	.....	59,200	58,800
Montana	13,900	.....	14,100	13,400
Colorado	5,500	.....	3,900	3,700
Total Mountain States	81,600	.....	77,200	75,900
EASTERN STATES—				
Pennsylvania	.....	.....	76,200	77,900
Southern Illinois (New Pools)	.....	.....	29,950	30,400
Illinois-Indiana (Old Pools)	.....	.....	13,250	13,650
Others, Eastern	.....	.....	24,800	25,750
Total Eastern States	148,100	.....	144,200	147,700
Total United States	3,438,100	.....	3,331,145	3,326,900

* Recommendation of Central Committee of California Oil Producers.

† Daily average, considering Sunday shut-downs.

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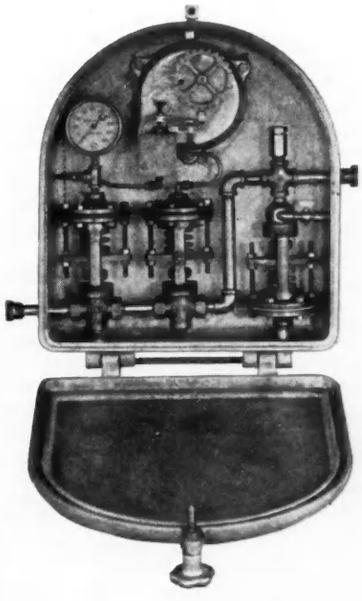
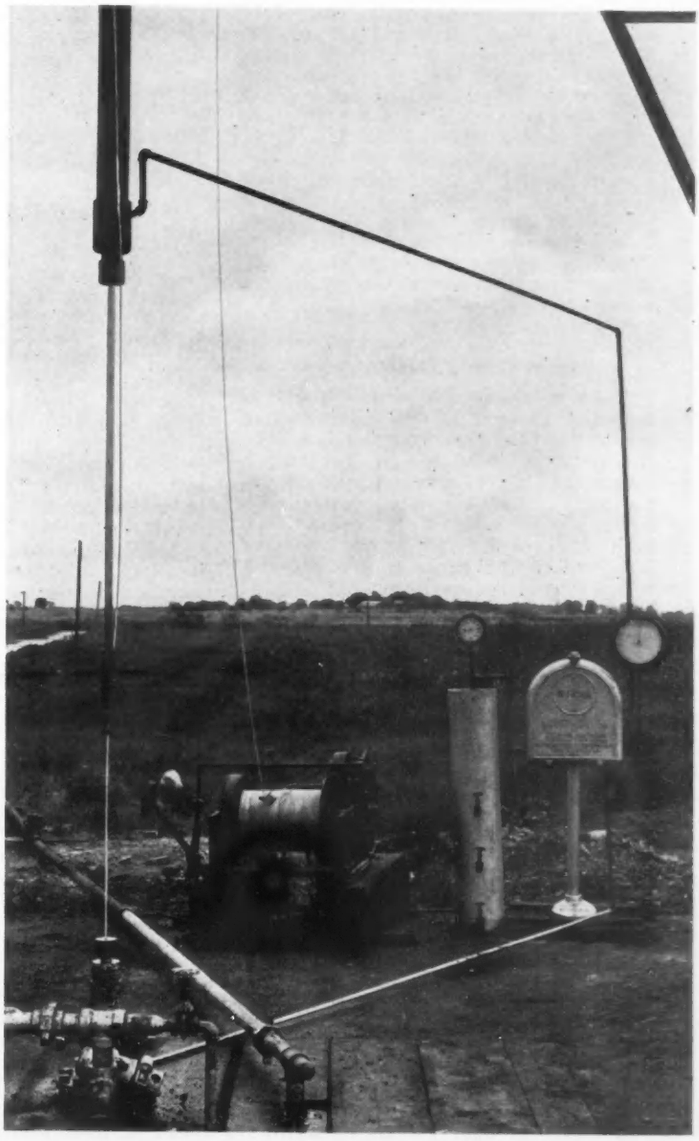


Intermitter with housing door open showing how all parts are completely protected when door is closed.



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SALES OFFICES — Tulsa, Oklahoma; Dallas, Texas; Shreveport, Louisiana.

Canadian Fields

[*Continued from page 46*]

River, Royalite Oil Company, Limited's 32 was drilling 128 feet in that formation, or at 6945 feet. Location is Legal Subdivision 8, Section 17, Township 18, 2-w5.

The next two weeks may reveal the possibilities of the Highwood-Sinclair structure as a new Alberta oil field. Green Valley Petroleums, Limited's Banner 1, Legal Subdivision 6, Section 34, Township 17, 3-w5, was drilling at 6102 feet, or 742 feet in the Madison limestone, expecting to encounter the main porous horizon within a hundred feet. The well is logging similar to Sundance Royalties, Limited's and other Southwest Flank Turner Valley wells. There were signs of fissures during drilling last week, but the fractures had apparently been closed up. The structure, simliar in many ways to Turner Valley, was discovered by Joseph E. Sinclair, internationally known geologist, 1913, and in the opinion of many geologists it has greater crude oil prospects than Turner Valley. The Banner 1 has encountered encouraging crude shows in the upper part of the Madison, comparable to the first or lighter porous horizon in Turner Valley. The hole is in good shape.

Pouce Coupe Encouraging

After encountering some oil at 932 feet and about 2,000,000 cubic feet of gas at 945 feet, Guardian Oil Company Limited's 1, wildcat on Section 7, Township 80, 12-w6, on the Pouce Coupe structure in northwestern Alberta, was drilled to 1060 feet, at which point eight-inch was being cemented last week. It is planned to drill the test, which is using a modern rotary rig, to the Lower Cretaceous sand, expected at 4200 feet. The well is coring frequently to permit close study of formations. On the same structure, Batcheller Syndicate's core drilled test on Section 24, Township 79, 12-w6, was at 1224 feet, preparing to deepen another 150 feet.

Approximately 1500 barrels of crude have been trucked from Moose Oils, Limited's Canyon 1, Legal Subdivision 16, Section 30, Township 22, 6-w5, which brought the Moose Dome structure into the crude oil field classification a week ago. The oil has a gravity of 49 degrees, several degrees higher than Turner Valley crude. Bottomed at 1550 feet, the well is to be deepened in an effort to increase the flow. This company's No. 1, first well to be drilled on the structure, about 60 miles from Calgary, near Bragg Creek, came in at the rate of 10,000,000 cubic feet of wet gas daily. No crude shows were encountered, although the test was carried to 2832 feet.

Moose Dome Unique

Moose Dome is unique, in that the oldest geological formations are exposed. All formations found in Turner Valley wells, including the producing Madison limestone, can be seen in outcroppings along the mountain sides of the structure. Below the Madison, the Banff shales are exposed and it was in this formation that the Moose Oils, Limited's wells started drilling. Production is from the underlying Devonian, which at Turner Valley would be below 10,000 feet.

Standard Oil Company of California, through its subsidiary, The California Company, has taken leases from Altoba Agencies, Limited, on lands in Townships 19, 20 and 21 of Ranges 10, 11 and 12, all west of the fourth meridian, on the Steveville structure. The area is about 120 miles east of Calgary, near Brooks and Bassano. Preliminary checking of geological data has been made by the Altoba company, and seismograph parties of The California Company are at work in the area. John Galloway, geologist, is representing The California Company in Alberta.

On this structure, Anaconda Oil Company, Limited's No. 1, wildcat on Legal Subdivision 15, Section 9, Township 22, 12-w4, was drilling below 1700 feet and carrying 10-inch casing. First test to be drilled on this structure, the wildcat is encountering satisfactory geological conditions.

Anglo-Canadian Oil Company, Limited has established an unofficial drilling record for a Turner Valley test. Its No. 2, Legal Subdivision 13, Section 33, Township 16, 2-w5, was drilling at 4615 feet on its thirty-second day, despite a halt in drilling necessitated by reaming and cementing the 13⅜-inch casing at 1118 feet. Footage has averaged 145 a day.

Pure stages picnic

Pure Oil Company last week staged the first picnic for employees of its Illinois producing division at Olney Park, in Richland County. The company assisted the park board in putting the tennis courts in excellent condition for the event, and painted and waxed the floor of the clubhouse roof which is used as a dance floor.

Dave Reid was chairman of the event. Assisting him were Cappy Ricks and Frank Thrasher, in charge of golf; Tom Adams, refreshments; Larry Wilson, contests; Bob Benson, prizes; M. E. Marsh, softball; Trav Peyton, music; Jean Empson, cards; Cecil Groff, tennis; P. M. Cooper, horse shoes, and Gordon Towner, tennis.

South Penn holds picnic

More than 1000 persons, employees, their families and friends, attended the annual picnic of the Oil City district of the South Penn Oil Company July 30 at Hasson Park, Pennsylvania. During the day, a plaque was awarded to J. F. O'Neil, district superintendent for the best safety record of any district in the company's area. Company officials attending the event included P. H. Curry, Pittsburgh, president; Charles Stevenson, Pittsburgh, general manager, and Ronald Oldham, Pittsburgh, head of the welfare association.

Propose $5,000,000 Michigan gas line

Construction of a $5,000,000 loop pipe line which would bring gas from the Mid-Continent and Texas fields into Pontiac and other Michigan communities now served with manufactured gas is involved in a cooperative plan to make natural gas available to additional Michigan cities and to increase the take from state fields now being worked out by the state public utilities commission, Commissioner Charles S. Porrit announced last week.

Natural gas, under the proposal, would be available to Mt. Clemens, Royal Oak, Birmingham, Flint, most of Oakland County and a portion of Macomb County.

West Virginia proposes new gas measure basis

Supporting a previous suggestion by the West Virginia public service commission, H. J. Wagner, commission engineer, last week presented a voluminous report recommending that a method of determining the heating unit value of natural gas be written into regulations.

The commission suggested that natural gas, now sold by West Virginia companies by the thousand cubic feet, be measured on a British thermal unit basis. To allow state firms to study the report, the commission has recessed a hearing on the matter until September 27.

Illinois clays

Urbana, Ill.—The Illinois state geological survey division last week announced issuance of a circular on "Gumbotil as a source of rotary drilling mud, bonding clay and bleaching clay" prepared by J. E. Lamar, R. E. Grim and R. M. Grogan.

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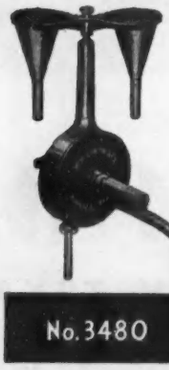

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No. 3480 W. H. CURTIN & COMPANY, INC. HOUSTON, TEXAS

WEEK'S DRILLING HIGHLIGHTS

COMPLETION of the largest producer in the second Minnelusa sand of the Leo pool division of Lance Creek to extend the field a half mile revived activity in that Wyoming field.

North Dakota's deep test continues drilling below 9909 feet after having broken the Rocky Mountain district's old depth record of 9385 feet; Ordovician, expected at about 12,000 feet, is the objective.

Southwest Texas

Anima Sola prospect, southwestern Jim Wells County, was converted into a gas field, production coming from the Jackson. Alice field was defined northeast and southwest when the two key outposts fizzled. South Texas' deepest well, drilling below 10,700 feet in heaving shale, has already negotiated 1500 feet of that material. Numerous sands in the Catahoula section are showing oil and gas in a wildcat east of Taft. Southern McMullen County got a shallow Cole sand pool when a wildcat sprayed a little oil from 1100 feet.

Arkansas

Salt water put in its appearance in a southwest offset to the discovery well of the new Village Permian lime field of Columbia County.

In North Louisiana, gas production of Sugar Creek area, Claiborne Parish, was extended a half mile.

California

A wildcat drilling near Famosa was reported to have encountered oil sand after penetrating the top of Eocene around 10,100 feet. This is the first time Eocene has been tapped in California east of San Joaquin Valley.

Comparison of Permits Granted for New Wells

STATE	Week Ending Aug. 6	Total this Mo.	Total this Year	Total this Date Last Year	1937 Year Total
Arkansas	2	2	151	135	240
California	28	28	740	952	1,584
Louisiana	34	34	819	734	1,227
Kansas	42	42	950	1,641	2,663
Michigan	27	27	480	605	958
Oklahoma	31	31	1,241	1,817	2,711
Texas	309	309	8,234	11,152	17,238
Total	473	473	12,615	17,036	26,621

Kentucky

After coring satisfactory McClosky saturation, a wildcat is expected to extend Birk City pool, Henderson and Daviess counties, ½ mile northwest.

Illinois

Stein sand saturation at 1262 feet in a DuBois Township wildcat put Washington among the oil producing counties of the state. Another wildcat 2½ miles northwest of Waverly showed for commercial production at 945 feet. Lake Centralia field, Marion County, was extended 2 miles southeast by one well and ½ mile south by another.

Kansas

A mile northwest of Zenith pool a Stafford County wildcat is showing for an Arbuckle lime pool opener, and 1½ miles south of Snider pool, same county, another wildcat made 66 barrels of oil in 5 hours from the same formation. Ritz-Canton field in McPherson County got a minor extension from a Mississippi chat pumper. In Barton County, Ainsworth pool was extended ¾ mile east and Bloomer was extended ¼ mile north. Ellis County is promised a new pool, saturation having been cored in a wildcat at 3477 feet.

Oklahoma

Greater Seminole area was promised two new pools. One, 2 miles north of Asher pool in Pottawatomie County, had 3000 feet of Viola lime oil in the hole. The other, in Seminole County, filled 3500 feet with oil from Wilcox sand. In Okfuskee County a wildcat north of Dill pool made two flows and was shut in for tankage. Two wildcats near Oklahoma City look like pool openers, though they are delayed by mechanical trouble.

Texas Gulf Coast

Discovery of a shallow Miocene sand capable of satisfactory production points to large producing acreage for Cedar Point field, located in Galveston Bay. Fairbanks field's mile northeast outpost has been killed again to test a sand at 7170 feet. An abandonment limited Friendswood field, Harris County, on the northwest. A north flank well at Hardin, Liberty County, also was abandoned.

South Louisiana

A wildcat on Convent-Hester prospect, St. James Parish, was completed for 81 barrels of gasoline and distillate and 5,000,000 cubic feet of gas from 7499 feet, giving the parish its first production of oil or gas. Caillou Bay prospect in Terrebonne Parish was proven to be a salt dome.

Summary of Wells Completed in the United States Week Ending August 6, 1938

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total, 1938	Total this Date, 1937
Alabama	.....	.....	.....	.....	.....	2	1
Arkansas	3	3	.....	.....	2,770	138	51
California	23	17	.....	6	13,644	755	853
Colorado	.....	.....	.....	.....	.....	5	6
Florida	.....	.....	.....	.....	.....	.....	.....
Georgia	.....	.....	.....	.....	.....	1	.....
Illinois	46	32	.....	14	7,063	726	91
Indiana	2	.....	1	1	.....	72	70
Kansas	36	23	1	12	18,029	1,047	1,563
Kentucky	20	13	3	4	2,918	450	197
Louisiana	20	12	1	7	5,865	658	521
Michigan	14	7	.....	7	475	502	549
Mississippi	.....	.....	.....	.....	.....	11	6
Montana	5	4	1	.....	247	40	99
Nebraska	.....	.....	.....	.....	.....	1	.....
New Mexico	11	11	.....	.....	5,917	312	429
New York	*14	13	.....	1	52	*437	*705
Ohio	23	5	7	11	101	571	889
Oklahoma	40	21	5	14	14,946	1,337	1,946
Pennsylvania	*39	36	2	1	57	*1,333	*1,763
Tennessee	.....	.....	.....	.....	.....	2	.....
Texas	260	190	9	61	210,355	7,938	9,143
Utah	.....	.....	.....	.....	.....	2	.....
West Virginia	12	1	9	2	10	421	545
Wyoming	5	3	.....	2	110	70	62
Total this week	573	391	39	143	282,559	16,831	19,489
Total last week	553	392	39	122	316,406	.....	.....
Total this year	16,831	11,642	1,223	3,966	11,654,560	.....	.....

* Includes water-intake and pressure wells.

Oklahoma Fields

Two new fields promised for Greater Seminole area.
Okfuskee County wildcat is shut in for tankage.
Test south of Wilzetta will drill plug this week.

Tulsa.—Showing in two wildcats last week gave assurance of opening new pools in the Greater Seminole area of Oklahoma.

One in Pottawatomie County, drilled by Atlantic Refining Company, McCurry 1, NW NE SW 6-6n-4e, 2 miles north of Asher pool, was standing with 3000 feet of oil in the hole from Viola lime, topped at 4188 feet, total depth 4208 feet. It looks good for pumping output of 50 barrels an hour.

The other well is in Seminole County. Edgemont 1, SEc 17-7n-6e, drilled by Young & Newsom to 4380 feet, 2 feet in the first Wilcox sand, filled 3500 feet with oil.

The two wells are the product of the intense drilling campaign that is being carried on over the whole Seminole area. Both are on what seem to be small structures which were worked with seismograph.

In Okfuskee County the wildcat of C. W. Titus, Lehmer 1, C NE NE 26-11n-8e, continues to look like a pool opener, north of the Dill field. It has made two flows and is shut in for tankage.

Two Delayed

Two wildcats near the Oklahoma City field were delayed because of equipment trouble. Each has had showing from the Wilcox sand from cores.

In the Pottawatomie County wildcat, Atlantic Refining Company had set 7-inch casing at 4188 feet, top of the Viola lime in McCurry 1. First gas showed between 4203 and 4204 feet. The first oil show was between 4206 and 4208 feet, and it filled 2400 feet in 12 hours. After standing, it filled to 3000 feet, and preparations were made to run tubing for a production test. The Viola lime is the source of a part of the production of the Greater Seminole area, but not equal to the Wilcox sand, chief source of Greater Seminole's oil.

Promise of the new pool for Seminole County came with the drilling of two feet of the first Wilcox sand topped at 4378 feet. The well made two heads estimated at 50 barrels, then filled 3500 feet with oil. Further testing will be done after tankage is erected. The well is 2 miles west of the Little River pool and north of the Dora pool, each a part of the Greater Seminole area. Top of the Seipson dense was at 4299 feet, and 7-inch casing was set at 4267 feet. Dry holes indicate a pool of small area. There are dry holes at the edge of Little River pool, as well as between the well and Dora pool.

Sand Unidentified

The Okfuskee County wildcat of C. W. Titus, Lehmer 1, which had its first showing last week, continues to look like a producer with indications of a new pool north of the Dill field. The sand, not yet identified, was topped at 3475 feet and drilled to 3481 feet. One flow of 24 hours put 105 barrels of 37 gravity oil in the tanks with 500,000 cubic feet of gas. Later the well made 197 barrels of oil in 18 hours and produced 1,500,000 cubic feet of gas. It is waiting for pipe line connections.

Wrightsman Petroleum Company has started drilling Lehmer 1, SWc 24-11n-8e. Other tests are due to start around the strike.

Plugs will be drilled this week for the test south of the Wilzetta field, Lincoln County, Indian States Oil Company's Bailey 1, NW NW NE 2-12n-5e. It showed 400 feet of oil on a drill stem test of Hunton lime at 4233 to 4238 feet before 7-inch casing was set at 4225 feet. A producer may mean either an extension for the Wilzetta a half mile north or a small field.

A small showing in the old area of Okmulgee County came from the Bartlesville sand when Bryan Petroleum Corporation had gas and a show of oil between 1904 and 1914 feet. The well was killed, however, and drilling continued.

Both Look Good

Between the Britton field and the north end of the Oklahoma City field Olson Oil Company lost part of the electrical logging device in Vanek 1, SE SW NE 4-12n-3w, Oklahoma County. Until this is recovered and the test completed, the hole will wait for casing to be set so actual production tests can be started. Encouragement for this well came from cores within the second Wilcox sand. Top of this member was found at 6738 feet, a corrected depth. One core between 6742 and 6743 feet resulted in a 6-inch recovery with a show of oil and gas. Another core started at 6747 feet resulted in recovery of 2½ feet of stained sands. This test is on a high of apparently small area. Dry holes in several directions indicate limited structure. These, however, stamped the Vanek well as being on structure, as the Vanek well was higher on the markers than its nearby control wells.

Was Dolomite Test

The other wildcat was started as a test for dolomite production on the southwest edge of the Oklahoma City field by Fain Drilling Company and H. I. Grimes, but their Little 1, SW SW NE 28-11n-3w, found little encouragement in this formation and is now in the Second Wilcox sand, from which stained cores have been recovered. Late in the week, however, it was impossible to get tools back to the bottom of the hole, 6967½ feet. A core in the dolomite between 6827 and 6845 resulted in 6 feet of porous section with only slight oil stains. In the second Wilcox sand several cores have given evidence of saturation in 15 feet of sand. As soon as the bottom of the hole can be conditioned, the section will be tested by electrical device with indications that casing will be set for production test.

Elsewhere in the northwest Oklahoma area wildcat drilling was not encouraging. The Noble County wildcat of Texas-Canadian Oil Corporation, Schultz 1, NEc 21-23n-1w, was shut down after coring the second Wilcox sand, and abandonment was indicated. The last core between 5141 and 5142 feet in this sand produced 9 inches of hard white salty sand. The test had top of the first Wilcox sand at 5062 feet and top of the second Wilcox sand at 5138 feet.

A diagonal offset to the lone producer in the Waukomis field, Garfield County, was abandoned. It was Magnolia Petroleum Company's Clark 1, SEc 28-21n-6w, drilled to 7352 feet. Near Enid, also in Garfield County, Indian Territory Illuminating Oil Company's Kichen 1, C SE SE 17-22n-5w, was delayed at 5190 feet by a fishing job.

Deep Test Abandoned

One of the deep tests of the Fox-Milroy play in Carter and Stephens counties, Carter Oil Company's Farley 1, C NW NW 19-2s-3w, Carter County, was abandoned. Last perforations of the casing were between 5415 and 5478 feet, where acid was used without favorable result. The well was an east offset to the deep producer in the old Milroy pool in Stephens County. It was drilled to 8280 feet. The log indicated its formations were running around 600 feet lower than its west offset producer. The several possible producing members from the total depth to the last plugged-back depth were tested without any recovery.

Attention is now centered on Carter Oil Company's No. 1 Feagin, C NW SW 36-2s-3w, Carter County, on the southeast edge of the old Fox field and the eastern end of the deep play between the two shallow fields. Its first test was made last week when casing was perforated between 7980 and 8040 feet. It was given treatment with 5000 gallons of acid and an oil load of 350 barrels. The recovery by flowing was 40 barrels of the oil load and 270 barrels of acid water.

This test had a mishap in setting casing, which parted near the top before cement set. This allowed the casing to settle to the bottom of the hole.

Sinclair Prairie Oil Company has succeeded in plugging back to drill by lost drill pipe in its Love County wildcat, Peabody 1, NEc 35-6s-2w. This test, which has had repeated trouble with the hole, is east of the Stockton discovery well, which is producing from the Deese member of Pennsylvanian age. Depth is 2870 feet.

Completions lead starts

Tulsa.—Completions continued to lead wells started in Oklahoma last week when 43 wells were finished while 31 were starting. The completions included 21 producing wells with an initial output of 14,946 barrels; five gas wells, 13 dry holes, 3 abandoned locations and 1 input water well.

Kansas Field Developments

Atlantic strikes oil northwest of Zenith field.

Wildcat near Snider produces from Arbuckle lime.

Ainsworth, Bloomer and Ritz-Canton get extensions.

Wichita.—One new pool for this week in Stafford County, further encouragement for a pool opener of the same county last week and extensions for three old fields were the oustanding developments for the week in Kansas.

Latest of the Stafford County wildcats to show for a pool opener is the Atlantic Refining Company's Wise 1, NWc 13-24-11w, which has 1500 feet of oil in the hole from 3656 feet in the Arbuckle lime. The well is a mile north west of Zenith pool.

The other pool opener, which was showing for production last week, is Cities Service Oil Company Smith 1-B, C WL SW 16-21-11w, which made 66 barrels of oil from the Arbuckle lime in five hours, total depth 3412 feet. It will be acidized before completion. It is 1½ miles south of Snider pool.

The extensions were for the Ainsworth and Bloomer pools, Barton County, and the Ritz-Canton field, McPherson County.

Eight New Tests

The week was significant in wildcat activity, as drilling either was started or leases blocked to indicate immediate drilling of eight wildcats. Most of these are in the western part of the state. They are evidence of the trend of recent months during which holders of favorable acreage have been making sure of immediate tests in advance of rental or renewal dates.

First showing for the Atlantic Refining Company's Wise 1 came when the drill reached 3647 feet. After drilling in three feet it began making gas at the rate of 1,000,000 cubic feet a day. At that level oil began coming in the hole and filled 100 feet in 1½ hours. At the end of 12 hours it stood 1200 feet in the hole. It was put on the swab and produced 38 barrels the first hour. Thereafter it swabbed at the rate of 11 barrels an hour. When deepened to 3656 feet, oil rose 1500 feet in the hole with no water. Gravity is 26.5. Further testing will continue before a decision on the method of completion.

A core between 3403 a and 3410 feet last week indicated a producer in the Stafford County wildcat of Cities Service Oil Company, Smith 1-B C. W. L. SW 16-21-11w. After drilling one foot deeper in the Arbuckle lime, the well this week swabbed 66 barrels in 5 hours. It is to be acidized before completion. The well is 1½ miles south of the Snider pool and is classed as good for another oil pool for western Kansas.

In Ford County the wildcat producer of Sinclair Prairie Oil Company, Young 1, C SL NE 34-27-24w, is still shut in at the plugged back depth of 5025 feet, while efforts are being made to get an outlet for the gas. Its last test was for 45 barrels of oil and 90 barrels of water from Mississippi lime, along with 6,300,000 cubic feet of gas.

Ritz and Ainsworth Extensions

An extension for the old Ritz-Canton field, McPherson County, came through completion by Davis & Oldham of Baker 1, NEc NW 2-20-2w, for 215 barrels on the pump from the Mississippi chat between 2917 and 2951 feet. It is a fourth of a mile west of production.

The extension for the Ainsworth pool, Barton County, was indicated by a saturated Arbuckle lime core between 3309 and 3312 feet by Western Kansas Oil & Refining Company's Gage 1, C EL W½ NW 2-17-13w. It is three fourths of a mile east of production. Standard tools are being rigged up to drill in with 7-inch casing set at 3309 feet.

A quarter of a mile north of production in the Bloomer field, Barton County, Sinclair Prairie Oil Company had pumping output of 335 barrels in eight hours from the Arbuckle lime total depth 3304 feet.

Designation of a new pool has been given the Bartlesville sand producer of B. B. Blair and the Tulsa Oil Corporation, Dunlap 1, SW NW SE 21-32-5e, Cowley County, whose last test was 350 barrels on the pump. The well was first considered an extension of a half mile east for the Frog Hollow pool. It is now classed as a separate pool and named East Frog Hollow.

Ellis County Wildcat Shows

Promise of another pool for Ellis County came in the Arbuckle lime showing in Carter Oil Company's Gottschalk 1, NWc SE 36-15-8w, where 4½-inch casing has been set at 3464 feet. It is at 3477 feet. Cores gave saturated recovery in the Arbuckle lime, while cores in the Kansas City Lansing lime sections were favorable.

Late last week the Arbuckle lime began showing for production in the Barton County test of Pryor & Lockhart, Grant 1-C, NEc 18-31-13w, which filled 1500 feet with oil from 4610 feet. This well is ⅜ mile southeast of the Viola lime producer in the Lake City field. Previously this well had favorable showings in the Wilcox sand, but failure to get commercial production resulted in drilling deeper.

In Ness County Mid-Continent Petroleum Corporation abandoned Collins 1, a wildcat in NWc 25-30-26w, after drilling to 4555 feet in the Mississippi lime.

The pace of wildcat drilling continued high in the western part of the state, a part of the program to get favorable acreage tested in advance of lease expirations.

In Graham County Gilmac Oil Company will drill in the southwest quarter of 29-6-23w.

C. L. Carlock has taken over a block in Ness County and will drill in the southeast quarter of 11-17-25w, with the hole to be carried to 4800 feet.

Northeast of Zenith pool in Reno County, J. A. Motter and associates of Wichita, has made location for Krey 1, SEc SW 19-23-10w, on acreage farmed out by Cities Service Oil Company.

To Test 12,000-acre Block

A block of 12,000 acres has been assembled in Geary County by D. D. Fowler and a test is to be drilled in 19-12-8e, the eastern part of the state.

One mile east of the Medicine Lodge field, Barter County, the Barbara Oil Company, has made location for Thompson 1, C SW SE 16-33-13w.

Kessler Oil & Gas Company of Okla-

KANSAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
I. T. I. O's Hoffman 4, sw ne ne 1-16s-14w	1022	3294
Shell's Stettinger 2, nwc se 1-16s-14w	2391	3352
Bitter "A" 2, c ne¼ 11-16s-14w	21	3373
Armer's Seyfert 1, nw sw ne 3-17s-13w	282	3399
Magnolia's M. Steckel 12, nwc 1-20s-11w	89	3309
Butler County—		
Rex's Newby 1, sec se 16-26s-7e	*	2841
Dustin's Miley 1, se nw ne 17-27s-5e	*	2008
Heilman's Sawyer 1, se ne ne 10-28s-7e	50	2748
Cowley County—		
Smith's Wilson 1, se sw nw 9-33s-6e	*	3149
Ellis County—		
Magnolia's Johansen 15, ne nw se 22-11s-17w	2556	3437
Twin's Karlin 2, c s½ ne se 6-12s-17w	1225	3662
Bridgeport's Madden 1, nec sw 4-13s-16w	*	3500
Christy's Dinius 3, se ne se sw 31-24s-13e	*	1691
Hennesey's Jackson 1, se sw ne 23-26s-9e	10	2210
Harvey County—		
Sinclair Prairie's Neufeldt "B" 2, sec ne 18-22s-3w	70	3449
Kearney County—		
Tri-County's Campbell 4, c nw se 6-25s-35w	¶11	2655
McPherson County—		
Morine's Suffield 1-A, sw nw se 25-19s-2w	296	2948
Continental's Huxman 8, sw se nw 29-21s-1w	568	3290
Ness County—		
Jone's Page 1, sec nw 36-18s-26w	*	3270
Continental's Elmore 1, nwc se 8-18s-25w	*	4342
Reno County—		
Olson's Downie 1, se sw ne 14-23s-4w	35	3727
Rice County—		
Carlock's Heinz 1, nwc se 8-18s-10w	1118	3019
Continental's Durr 1, nwc sw 18-18s-7w	*	3241
Transwestern's Rick 1, sec 17-20s-10w	*	3362
Sinclair Prairie's Sharp 5, nec 7-20s-9w	74	3262
Russell County—		
Neiswanger's Ginther 1, nw sw ne 19-12s-15w	60	3088
Phillips' Miller 1, c nw sw 29-13s-14w	829	3317
Coralena's Sellens 3, sw nw se 29-15s-13w	1607	3324
Stafford County—		
Sunray's Teichman 1, nec sw 13-22s-13w	483	3698
Stanolind's Harbenson 1, sec nw 11-24s-11w	2009	3743
Hayes 2, nwc se 11-24s-11w	1243	3753
Pure's Krey 5, ne nw se 14-24s-11w	1961	3817
Woodson—		
Oko's Headley 18, nw nw sw sw 29-23s-14e	30	1686
Cyr Gas, Schreiber 1, se sw se 8-25s-14e	*	1578
Barker's Lewis 1, swc nw 35-25s-15e	*	1485

*Failures; †Junked; ¶Million cu. ft. gas.

homa City has assembled a block of 25,000 acres in the eastern part of Cloud County. A test is scheduled to start this year.

Acreage in Stafford County has been farmed out to H. L. Rowley of Oklahoma City, who has staked Sittner 1, SE SE NE 35-21-12w. The project is being aided by several major companies.

In Norton County the Vickers Petroleum Company, Wichita, is starting Bozarth 1, C SW NW 5-5s-24w, on a block of 10,000 acres.

North of the Lindsborg pool, Saline County, Sidwell and Sullivan are due to start a wildcat test in Section 28-16-3w.

NORTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (K-M-A)—		
H. A. Schaeffer Oil Co., Ferguson 3, blk 4	480	3878
White-Duncan & Dye, Ferguson 2, blk 17	520	3879
Archer County (Panther)—		
Mazda Oil Corp.-Helmerich & Payne, Finley 1	300	4305
Reno Oil Co., Wilmot 10-A, blk 4..	60	4066
Archer County—		
Cable Oil Co., Webb 15, lot 5....	*	717
Hawkins et al, Pace 10, blk 112...	3	1220
Jirik et al, Wolf 2, sec 1.....	*	1297
Shappell Oil Co., Bell 5, sec 27....	114	1026
Bell 6, sec 27.....	99	1009
Clay County—		
Deaton et al, Roach 1, blk 4.....	*	253
Hudson et al, Big Wichita River 2..	55	1107
Metzner & Burns, Thornberry 6-A, blk 6	18	1108
Thornberry 7-A, blk 6.....	11	220
Tanner et al, Rigsby 5, blk 2.....	8	222
Cooke County—		
Trumter Oil Corp., Trubenbach 3..	84	823
Trubenbach 4	75	826
Haskell County—		
Fain-McGaha, Hendrick 1.....	*	3089
Forest Dev. Corp., Bankers Life 1, blk 59	*	3855
Jack County—		
Big Six Oil Co., Smith 3.....	20	2947
Evans et al, Martin 1.....	*	506
Gillespie et al, Loving 2, sec 3345...	*	3259
Gilmore et al, Martin 1, sec 3328...	*	323
Harper Pet. Co., Norman 1.....	60	1941
Mar-Tex Oil Co., Kuykendall 3-B..	396	3254
McKee & Mullins, Wilson 1.....	*	421
Montague County —		
Martin & Hines, King 4	104	1616
Seitz-Comegys & Seitz, King 6....	272	1754
Wichita County (K-M-A)—		
D. H. Bolin-Jim Whittington, Waggoner Bros. 4, sec 21.....	960	3965
Bridwell Oil Co., First Nat'l Co. 4-B, blk 27	480	3900
Al Buchanan Prod. Co.-Blanco Oil Co., Waggoner Bros. 1, sec 8....	840	3800
Burns et al, Waggoner Bros. 23, lot 15	20	4012
Christie-Hickman Drl. Co., Bolding-Lowry 8, blk 23	800	3851
Deep Oil Dev. Co., Munger 18, blk 30 (key well)	*	3878
E. C. Oil Co. et al, Lewis 1-A, blk 20	720	3819
Miller 2, blk 29.....	75	3875
Fain-McGaha Oil Corp., Griffin 3-B, blk 2 1200		3844
J. E. Farrell & Co., Waggoner Bros. 2, lot 36	528	3890
Waggoner Bros. 3, lot 36.....	528	3909
Waggoner Bros. 4, lot 30.....	650	3884
Travis Fullwood et al, Waggoner Bros. 1, sec 13	400	3860
Geier Bros.-F. B. Jackson, Mitchell 2, sec 1	840	3875
W. H. Hammon, Hanlon & Buchannan, Inc., Hammon 2, sec 2.....	700	4061
Kadane-Griffith Oil Co., Mangold 3-B, blk 39 3600		3855
Hubbell Prod. Co., R. J. Bradley 1	50	3974
Manson Oil Co., Fassett-Tuttle 3, sec 2	880	3966
Mitchell 4-B, sec 1	928	3946
McCutchin et al, L. C. Denny 2....	250	3914
McRoberts et al, Waggoner Bros. 1, blk 5	20	4002
Mitchell Oil Co., Mitchell 3-C, lot 11	832	3865
Moran, Bros., Inc.-T. J. Waggoner, Jr., Waggoner Bros. 3, blk 31....	500	3849
Waggoner Bros. 4, blk 31.....	960	3851
Murchison & Cranfill, Waggoner Bros. 4, lot 33	500	3818
Omohundro et al, W. L. Hodges 10.1280		3847
Peckham et al, Waggoner Bros. 3, sec 13	584	3835

North Texas Development

Childress County test logs dense lime at 5660 feet. Ellenberger lime saturated in Clay County wildcat. Second producer looms for Collinsville pool.

Wichita Falls.—A widely separated group of wildcats in North Texas were nearing a decisive stage late last week. Search for new oil areas in the deep lime horizons has been intensified by the development of the K-M-A field and discovery of new pools this year on nearby structures and in other counties included within the district.

Interest in the northwest portion of the district centered on McMillan Brothers and Humble Oil & Refining Company's C. W. Furr 1, C NW NW W&NW Section 418, Block H, Childress County, 2 miles south of Kirkland. Coring operations at 5660 feet brought up dense lime formation. It is one mile north of Watchorn Oil & Gas Company's Mollie Low 1, which precipitated a major lease and royalty play in the general area in May, 1935, when oil was found in sandy-lime, topped at 5633 feet. Water appeared after a deferred production test, and the wildcat was deepened to Ordovician at 8209-23 feet with negative results. Plugback operations also failed. However, sufficient natural heads of high gravity oil were made by Low 1 to maintain interest in the large geophysical high. W. A. Aggers and J. P. Stewart's Schluter-Loter 1, C SW SW Section 422, 1 mile north of Kirkland, was drilling at 4130 feet.

Clay County affords two prospects that are holding the attention of operators. Walter H. Gant et al's Bryant Edwards 1, S. C. Beldon Survey, A-12, 6 miles east of Henrietta and the same distance northwest of the Worsham deep pool, was unloading for a production test in Ellenberger saturated lime section at 5994-6016 feet. Top of lime was called at 5991 feet. L. T. Burns et al's M. M. Lyles 1, Block 27, San Augustine University Survey, A-403, south central part of county, resumed coring after testing dry when drill stem test was made in saturated sand at 3038-45 feet.

Mildred Oil Company's L. C. Netherly 1, more than quarter mile southwest of the Collinsville one-well pool, Grayson County, checked slightly higher on structure in logging saturated lime at 3880-90 feet, followed by two-foot shale break then oil sand at 3897-3900 feet. Formation tester will be used before running casing. Denver Producing & Refining Company's J. R. Singletary 1, Chas. Quillen Survey, A-989, opened the pool early last year pumping 56 barrels of 27.6 gravity oil initial from sandy-lime at 3862-76 feet after plugging back from 4219 feet. It is the only deep produced in the county.

Walnut Bend Extension

Sinclair Prairie Oil Company's S. H. Putman 1, located 1650 feet north by west of the company's discovery producer for the Walnut Bend structure, northeastern Cooke County, was running pipe after coring the top of the Deese (Strawn) sandy-lime pay zone near the 4900-foot level. It is reported to be checking about 30 feet lower on structure than J. M. Best 1, which flowed 880 barrels initial at 4887-4900 feet.

Fain-McGaha Oil Corporation's L. F. Wilson 1-G, NW NW SE Section 44, A. T. N. C. Lands, northeastern Archer County wildcat that has been in process of completion for several weeks, flows infrequent heads of oil with small amount of salt water when shutin to build up pressure. Production is from unidentified sandy-lime at 4727-58 feet. This zone is slated to be shot with nitro.

The Ellenberger is to be penetrated by Continental Oil Company and Petroleum Producers Company's Asylum 1, southeastern Wichita County wildcat completed early last month in Bend lime at 5079-5128

Company, Well and Location	Init. Prod. Bbls.	Depth
Ray et al, Waggoner Bros. 1-B, sec 8	510	3823
Retsal Drl. Co. et al, Martin 1, sec 12 1184		3860
Roberts et al, Kempner 3, blk 18..1008		3886
Showers-Moncrief, Ferguson 2, blk 39 1744		3805
Staley Oil Co., First Nat'l Co. 12, blk 44	232	3879
Sunray Oil Co., Mangold 7, blk 38 547		3799
Mangold 8, blk 37.....2304		3821
Vierson et al, Kempner 2-B, blk 18.3600		3855
Worsham & Hamilton, Waggoner Bros. 2, sec 13 1080		3855
Worth Oil Co., Logan 3-B, blk 21..1040		3851
Wichita County—		
Blair et al, W. B. Honaker 1.....	2	400
Mogren & Anderson, Mertens 8.....	50	939
Powers et al, Denny 6.....	21	602
Tedford et al, Bentley Bros. 1.....	*	510
Wilbarger County—		
Golding Est. & Cochran, Waggoner 3-S, sec 30	110	1531
King Oil Co., Castleberry 3, sec 68	*	2206
Paradise Oil Co., Waggoner 3-B, sec 30	223	1553
Phillips, Waggoner 2-6, sec 45....1168		3072
Waggoner 26-NN, sec 42.....	345	3765
Summitt Oil Co., Waggoner 4, sec 14	5	1695
Webb et al, Waggoner 3-D, sec 42	120	2380
Young County—		
Barrett & Reynolds, Goode 1.....	20	2154
Brazelton Bros.-Staley Oil Co., McBrayer 1, sec 1904	10	696
Bridwell Oil Co., Williams 1, blk 26	8	690
Williams 2, blk 26.....	40	629
Jeffers Oil Co., J. A. Wright 1-B..	*	4165
Labuzan et al, Webb 1, lot 7.....	*	679
King Oil Co., Bloodworth 1, sec 214	*	761
Lake Oil Corp., Ford 1, sec 1971..1250		4070
Lupton & J. McLester, Gibson 8.. 289		3753
Olsen et al, Stephens 1, sec 1985..	45	4073
Pemeta Oil Co., Tatum 30, sec 1908	10	657
Watson et al, Taack 2, sec 248....	*	756

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Carson County—		
British-American, Block 6.....	241	3121
McGill et al, Cooper 1-C.....	146	3049
Hutchinson County—		
Continental, Sanford 2-C.....	†	2637
Moore County—		
Phillips, Makeig-Gulf 1.....¶65.8		3664
Texoma Nat'l Gas Co., Coon 9-M..¶12¼		3442

*Failures; †Junked; ¶Million cu. ft. gas.

feet, after exhausting the natural flow developed by two-stage acid treatment. The well quit flowing after producing 1184 barrels of oil in 8 days.

Required offset drilling was largely responsible for the K-M-A field registering the largest volume of new locations the past week since mid-May; 34 projected Strawn tests were listed, and work is underway on 15. A majority of the operators favor a holiday on drilling until market conditions improve, but royalty owners are demanding action, with threats of lease forfeit or damage suits. Total field operations have been reduced three consecutive weeks as result of the heavy run of completions, including wells that have not obtained pipe line connections. Currently the field has 179 operations, including 57 tests that have reached the final casing point or are in process of completion. A total of 31 tests are drilling with rotary between casing points, and surface pipe has been landed on 15 additional projects. Derricks and rigs account for 15 listings, and 10 tests are idle. The report shows 51 locations.

King Oil Company's Waggoner Bros.-Gulf 4, Block 10, M. A. Willis Survey, A-548, northwest portion of the K-M-A area, is showing for a large natural producer. The well flowed 43 barrels oil in 45 minutes through casing when plugs were drilled, and will be equipped with tubing for completion. Production is from sand, with sandy-lime streaks, at 3767-3816 feet followed by shale to 3821 feet. Sinclair Prairie Oil Company's N. H. Martin 3, SWc of 100-acre lease, BS&F Section 12, A-744, swabbed 45 barrels oil in 2¼ hours at 3799 feet, and is awaiting the results of 200-quart shot used to attain flowing production. M. Staniforth & Company's Martin 2, SE NE NE H&TC Section 36, Block 7, offsetting the above lease on the west, failed to encounter free oil in drilling to 3910 feet. Two feet of sand was topped at 3772 feet and broken lime was logged at 3772-3900 feet. The latter logged the top of the K-M-A lime 163 feet lower structurally than Sinclair Prairie Oil Company's Martin 3.

Joe A. Worsham et al's Chas. Pettit 2, SW NW NE H&TC Section 20, Block 7, near the extreme west edge of production, is showing for a small pumper after drilling through the Strawn pay section to 4051 feet. The hole was plugged back 10 feet for 270-quart shot at 3976-4041 feet, and filled 300 feet with oil while cleaning out shot cavings.

Magnolia Petroleum Company is to renew its search for deep production in the old Burkburnett district, having moved in company rig to drill Hugh Reilly 143, located 3530 feet from south and 1930 feet from west lines of the J. Ellis Survey, 3½ miles southeast of Clara. Location is midway between Reilly 20 and 108, both pumpers in the 1200-foot sand. The new project will test the Strawn and Ellenberger. It is 9600 feet southwest of the company's Chris Schmoker 43, recently abandoned in Ellenberger at 3010-3666 feet.

FLOYD SHAFFER, geologist with Phillips Petroleum Company, was drowned August 3 in Lake Murray, near Ardmore, Oklahoma. He was in the southern Oklahoma district to relieve a regular staff member during vacation. Shaffer dived from a small sailing boat. He had been with the company since graduation from the University of Kansas in 1936.

West Texas Fields

Humble completes largest producer in Means field. Montecito Corporation to drill four wells at Emma. Wildcat between Seminole and Wasson running low.

Midland, Texas.—The east flank of the Means field, Andrews County, contributed the largest producer in this four-year-old area when Humble Oil & Refining Company's J. S. Means 47, near C SW NE PSL Section 10, Block A-35, gauged 5430 barrels initial with 1,600,000 feet of gas after a three-stage acid treatment of lime at 4510 feet. The well tested 50 barrels hourly natural, then increased to 82 barrels per hour when treated with 1000 gallons of acid. Second treatment with 3000 gallons boosted the flow to 142 per hour. The oil tests 28.8 gravity. The company's Means 46, a north offset, recently made 2233 barrels oil, plus 20 percent water, when treated with 4000 gallons of acid at 4535 feet.

Four-Well Obligation

A four-well drilling obligation for the Emma pool, south Andrews County, was assumed by The Montecito Corporation in purchasing one-half interest in R. R. Rhodes, J. D. Tompkins and Walter Donnelly's Emma Cowden 1, which recently extended the producing area one mile north with an initial output of 1061 barrels of oil from lime at 4200-20 feet. Montecito paid $200,000 including $50,000 cash, for its interest in the well and 320 acres, and contracted to drill four wells, which will be owned 50-50 when their cost is amortized by production. Sinclair Prairie Oil Company's Emma Cowden 3, an east offset to the above well has landed surface pipe.

S. H. Forgeron and Olson Drilling Company's Lockhart & Brown 1, southwestern Andrews County wildcat, was rigging up to pump after deepening to 4780 feet. It has 500 feet of fluid, mostly oil, and did not boost the oil yield in deepening from 4584 feet.

Low structural position of Osage Drilling Company et al's B. E. Miller-Sun 1, C SW NE W. T. Section 281, Block G, Gaines County wildcat situated on a strike between the Seminole and Wasson fields, discounts the oil prospects. Eight-inch pipe has been cemented at 3319 feet, with the hole

WEST CENTRAL TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Brown County—		
Delmarva Oil Corp., Thomason 1	*	1065
Evans et al, Hall 1	*	1565
Gilcrease Oil Co., Horton 1	206	1841
Perry 3	35	1249
Harrold et al, Tabor 1	*	2551
Hart et al, Richmond 1	15	1305
Lockhart et al, Angel 1	*	2803
Moore et al, Smith 1	*	1596
Callahan County—		
Henderson & Shipp, Kelton 1	*	776
McDonald & Campbell, B. C. Chrisman 1	*	893
Petroleum Drl. Co., Cook-Jordan 1	¶8.9	4468
Webb & McCabe, Dawkins 1	*	1280
Coleman County—		
Coleman et al, Ford 1	*	1182
Lynn et al, Stafford 1	¶5.1	1338
Comanche County—		
Gallagher & Lawson, Terry 1	*	5260
Eastland County—		
Dorothy Oil Co., Johnson 1	*	1489
Phillips, Snoddy 1	*	1620
Palo Pinto County—		
Sanford et al, Haymaker 1	*	4210
Shackelford County—		
Charter Oil Co., Mimms 14	15	1612
Fortex Oil Corp., Davis 1	*	1477
Hamer et al, Andrews 2	*	816
Hart et al, Lones 1	*	707
Iron Mt. Oil Co. et al, Beck 4	100	1938
Stephens County—		
Rich-McNabb et al, Andrews 1	51	3668
Tarrant County—		
Hoffpauir et al, Joe Hendrick 1	*	1595

Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Crane County (Jordan)—		
Sinclair Prairie, University 3-27, sec 12	1220	3580
Crane County (Sand Hills)—		
Gulf, Waddell et al 8	*	6116
Crockett County (Wildcat)—		
J. Simpson & White, Hoover 1	*	601
Ector County (Foster)—		
Cities Service, Bagley 6	1343	4280
Ector County (Goldsmith)—		
Humble, Scharbauer 18-C	277	4203
Phillips-Pure, Cowden 36	1764	4194
Ector County (Harper)—		
Amon Carter-J. W. Naylor, Parker 5	822	4221
Texas Co., Parker 4-B	814	4225
Wentz et al, Parker 3-D	1895	4168
Ector County (Jordan)—		
Oil Well Drl. Co., Connell 1-B	154	3710
Fisher County (Royston)—		
Gen'l Crude Oil Co., N. G. Barrett 4	286	3090
Fisher County (Wildcat)—		
Daube Bros. & Forest Dev. Corp., A. C. Bennett 1	493	3699
Howard County—		
Magnolia, Hyman Chalk 6	1470	2990
Robt. Scott 1	1227	2867
Sinclair Prairie, Dodge 58	303	2790
Standard Oil Co. (Texas), Dodge 12	152	2791
Jones County—		
Danciger, Fain-McGaha 3	301	1954
R. B. Farris et al, Chas. Donohoo 1	*	2213
S. C. Herring-D. W. Burleson, Ellis 1	*	2385
Humble, J. Hollums 11	2000	3248
Iron Mt. Oil Co.-Humble, Haterius 4	2015	3266
Petroleum Prod. Co., Milsap 7	290	1958
S. B. Roberts Co., R. E. Pritchard 1	81	2083
Pecos County (Netterville)—		
Superior, Brandenburg 1-C	42	2322
Pecos County (Payton)—		
Sun & Atlantic, Payton 4	174	2025
Pecos County (Wildcat)—		
Gregory et al, O'Neill-Humble 1	†	486
Stonewall County—		
Stonewall Oil Co., H. T. Carlisle 1	330	5176
Upton County (Gulf-McElroy)—		
Gulf, Crier-McElroy 33	805	2942
Upton County (McCamey)—		
Humble, R. P. Ricker 14-B	363	2520
Sun, Baker 6	237	2292
Texas Co., Cordova Union 2-A	496	2375
Ward County—		
Gulf, O'Brien 98	185	2760
Western Well Service Corp., Johnson 1	399	2032
Winkler County (Henderson)—		
W. K. Royalty Co., Walton-Humble 3-D	4500	3060
Winkler County (Kermit) —		
Magnolia, Walton 166	2397	2923
Yoakum County (Bennett)—		
T. P. Coal & Oil Co., Bennett 8	2156	5240
Yoakum County (Wasson)—		
Murchison et al, Willard 1	155	5100
Skelly, Kendrick 1	120	5009

Failures; †Junked; ¶Million cu. ft. gas.

bottomed at 3350 feet. Salt series was logged at 2320-3230 feet, with an elevation of 3435 feet. This wildcat is 2½ miles northwest of nearest production on the Seminole structure, and presumably on the east flank of the projected axis of the lime high as determined by geophysics. Atlantic Refining Company is contracted to start a test shortly in S½ NE W. T. Section 264, Block G, about 2½ miles northwest of the older section of the Seminole pool and 2 miles south by west of the northwest outpost producer. Shell Petroleum Corporation and Republic Production Company contributed acreage, as their leases are due to expire November 24, 1938.

An irregular water table prevails in the new oil pool uncovered in northeastern Crane County on a strike between the Church and Fields and Gulf-Waddell areas. Magnolia Petroleum Company's University 1-15, SWc Section 15, Block 30, encountered 6 barrels water per hour at 3327 feet, or 690 feet below sea level. The hole has been plugged back to 3252 feet for nitro shot in broken pay at 3199-3235 feet. The company's small discovery pumper, located 1-1/3 miles to the northwest, did not reach the water table until 3640 feet, or 1006 feet sub-sea. The Texas Company's State 1-G, NEc Section 7, Block 30, northwest outpost, logged top of Yates at 2150 feet, with an elevation of 2642 feet, and is 83 feet higher than the pumper on this marker. Seven-inch pipe was cemented at 3011 feet.

Magnolia Petroleum Company's Lynn 1, C SE NE 770, situated 1¾ miles northwest of production in the Yoakum County sector of the Wasson field, logged top of Yates sand at 2967 feet, with an elevation of 3644 feet, its structural position compares favorably with nearest producers. Gulf Oil Corporation's Moore 1, west outpost, is changing to cable tools at 4970 feet, with 7-inch cemented at 4850 feet.

Northwest Coleman County test showing in Strawn

Abilene, Texas.—Development of a Strawn sandy-lime pool in northwestern Coleman County is forecast by the preliminary showing made by Cooper Brothers, H. O. Wooten et al's W. R. Stockard 1, near NWc SE T&NO Section 23, Block 2, 1 mile west of Novice. The hole filled with oil and flowed by heads when agitated after coring saturated lime at 3604-23 feet and oil sand at 3630-57 feet. The well later flowed 50 barrels of oil in 1 hour and bridged after 50-quart nitro shot at 3630-55 feet. Stockard 1 is southwest of Barney Carter et al's Stockard 1 which made 20 barrels initial in 1931 after 50-quart shot in pay at 3587-3608 feet with the hole bottomed at 3710 feet.

Stonewall Oil Company's Carlisle 1, first producer for Stonewall County, flowed 330 barrels initial after using 500 gallons of acid in Palo Pinto lime at 5172-76½ feet. This wildcat is 6½ miles north of Peacock and near the center of a large drilling block. It is the deepest producer on the east platform of the Permian Basin.

Marion County test to go into lower Glen Rose

Marshall, Texas.—After showing estimated 30 million cubic feet wet gas daily on drill-stem test of Henderson sand topped at 5984 feet, Arkansas Fuel Oil Company's Johnson 1, Alexander Johnson Survey, 1 mile southwest outpost in the Jefferson section of Marion County, drilled and cored past 6085 feet to test lower zones in the Glen Rose.

The location is 1 mile southwest of the company's Pitts 1, Chas. Lockhart Survey, recently completed to extend gas-distillate production in the area 2½ miles southwest.

East Texas Fields

Only 39 rigs in service in big East Texas field. Sinclair looking for oil below field's water table.

Kilgore, Texas. — The East Texas field is temporarily withdrawing as one of the most active drilling centers after maintaining a dominant position almost continuously since the fore part of 1931. Curtailment of drilling is due to the shrinkage of demand for this $1.35 crude, and threat of a price adjustment. The field was replaced by the K-M-A deep area last January on drilling operations.

Current report on the East Texas field lists 39 rigs in service, and a total of 82 operations. Independents have taken the lead in stacking rigs, and are credited with only 15 active tests, including four on leases held by the largest independent producer.

Well Density Is 5.2 Acres

The field has an average well density of 5.2 acres, based on 25,507 producing and temporarily dormant wells and 133,550 productive acres. Independents have drilled to an average density of one well to 4.3 acres as compared to 5.9 acres per well for the majors.

Sinclair Prairie Oil Company's Wright (consolidated) 7, situated on 40.56-acre lease, Juan Vargas Survey, Smith County, near west edge of the Joiner sector, was drilled through the Woodbine section to Georgetown lime at 3968-4049 feet to study sand conditions and determine the possibility of oil being found below the present water table. Electrical formation survey was made before cementing 7-inch pipe at 3964 feet. The well flowed 20 barrels of oil in 30 minutes when plugged back and gun-perforated in the top section of the sand at 3687-91 feet, or 3289-93 feet sub-sea. The company is making a number of tests of this nature on the west flank of the structure and has encountered oil production in lenticular sands that were not drained of their oil content before the advance of the water table upon upper layers of sand.

Best results are attained in correlating the lower sands by drilling to the hard lime section, then working upward. During the past week the company's M. T. Cole 58, located near west edge of Kilgore area, Gregg County, drilled to Georgetown lime at 3778-90 feet, then gun-perforated at 3588-95 feet for a flowing completion. Top of sand was called at 3552 feet. In the Longview area, the company's W. H. York 22 drilled to Georgetown lime at 3810-22 feet, and tested 25 barrels oil in 30 minutes through gun-perforated pipe at 3592½-95 feet, with top of oil sand at 3555 feet.

Revised figures compiled by the field staff of the Texas Railroad Commission account for 505 wells that are not capable of producing 20 barrels of oil daily. These sub-marginal wells have an aggregate shortage of 4245 barrels in making their normal production quota, and 46 were listed on August 2. Allowable production on the latter date was estimated at 513,849 barrels, but actually was one-seventh less because of Sunday production holiday.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Joiner Area—		
Atlantic, Griffin 16 (80-ac)	950	3648
Ralph E. Fair, Inc., Maxwell 18 (87.4-ac)	3600	3745
Gulf, Thrash 21 (83.56-ac)	6500	3770
Hamilton Pet. Co., Gambrell 22 (54.7-ac)	6800	3672
Lippett et al, Eaton 3 (3.27-ac)	5500	3761
Ohio, Mason 19 (103.86-ac)	2400	3701
Overton Ref. Co., Pool 2 (28/100-ac)	7000	3782
Shell, Brooks 21-A (176.4-ac)	1500	3730
Brooks 22-A (176.4-ac)	800	3742
Sinclair Prairie, Wright (Consolidated) 6 (40.56-ac)	3000	3760
Stanolind, Mason Bros. 11 (108.24-ac)	2500	3613
Stewart O&G Co., Giles 4 (9.37-ac)	3600	3721
Sutton & Hawkins, Vinson 8 (21.6-ac)	480	3595
Texas-Jersey Oil Corp., Keeling 5-B, (65/100-ac)	7200	3760
Tide Water Associated, Pinkston 32 (134-ac)	6000	3782
Kilgore Area—		
Delta Drl. Co., Christian 9 (50-ac)	2500	3644
Donnell, Tr., Crews-Everett 6-B (50-ac)	1200	3811
Humble, Wooley 15 (100-ac)	7500	3680
Magnolia, Andrews 9 (54.36-ac)	8800	3619
Bean 12 (101.82-ac)	120	3539
Overton Ref. Co., I&GN 23 (19.58-ac)	720	3572
Shell, Carr 7 (45.15-ac)	5500	3467
Tide Water Associated, J. B. Watson 6 (23.85-ac)	6800	3605
Longview Area—		
Arkansas F. O. Co., Hestland 9 (36.7-ac)	5000	3636
Atlantic, Moyer 22 (128.2-ac)	4200	3660
Humble, Willingham 16 (100.6-ac)	3600	3707
Sun-Seaboard, Haynes 43 (203-ac)	8300	3650
Franklin County (Talco)—		
Humble, Norman-Prince 4 (127.67-ac)	229	4291
Freestone County (Cayuga)—		
Amerada, Berk 5 (1057-ac)	2400	4026
Henderson County (Cayuga)—		
F. M. Allison Prod. Co., Peetiette 8 (99¼-ac)	1500	4102
Marmar et al, I. W. Brown 2 (18¾-ac)	95	4103
Henderson County (Flag Lake)—		
Richards-Holloway & Chalk, Tarkington 2	*	3072
Titus County (Talco)—		
Humble, Graf 3 (74.15-ac)	254	4291
Henderson County—		
Lignite Pet. Corp., Tidmore 1, (208-ac)	*	4111

*Failures; †Junked; ¶Million cu. ft. gas.

Southwest Texas Fields

Anima Sola prospect is converted into gas field. Two attempts to extend Alice field are failures. Deepest test is in heaving shale at 10,700 feet.

Corpus Christi.—Vicksburg trend, center of South Texas Gulf Coast's present wildcatting program, added another producing area through the completion of Magnolia Petroleum Company's Paula G. de Valadez 1 on the Anima Sola prospect in southwestern Jim Wells County. The well bottomed at 6419 feet, flowed an estimated 22,000,000 cubic feet of dry gas per day from Jackson sand at 6408-15½ feet. The well previously had blown out, and upon completion of a resulting fishing job, casing was set at 6408 feet. The test is located in the southeast corner of Share 5-B, La Anima Sola Grant, 11 miles southwest of Ben Bolt and about 12 miles southwest of the Alice field production.

The new producer, near the center of a block of about 7000 acres held by this company, topped the Jackson formation around 6200 feet, placing its production well above the top of the Hockleyensis. Elevation is 256 feet, derrick floor. Future drilling on the structure may develop oil and gas sands in the Hockleyensis zone, which includes the majority of the producing levels in the Mirando district to the west. In addition, the Cockfield and Yegua sands provide possibilities.

Is High Pressure Field

This gasser is one of the strongest from the pressure standpoint ever completed along this trend. It showed shut-in pressures of 3550 pounds on tubing and 3635 pounds on tubing. Other tests through tubing were as follows: ¼-inch choke, 3510 pounds; ⅜-inch choke, 3100 pounds; 7/16-inch choke, 2750 pounds; ½-inch choke, 2550 pounds.

In the Alice field H. H. Howell's Mosser 1, Block 97, about 2 miles southwest of deep production, was being drilled ahead after running electric formation logging device at 6087 feet. The well drilled to 6000 feet, ran an electric log which indicated about 12 to 14 broken sands, at which levels sidewall cores were taken. Sand at 4933-47 feet indicated 5 ohms resistance, but poor porosity, at 5150-75 feet no porosity and 6 ohms resistance, at 5327-38 feet, apparently salt water.

Mills Bennett Production Corporation et al's Perkins 1, 2 miles northeast of production, after redrilling the entire section of possible producing zones, apparently is a failure. Sand section from 5337-42 feet had an oil odor but developed salt water on drill stem test.

Two Hit Heaving Shale

On the same general trend, but in Duval County, Standard Oil Company of Texas, landed 7-inch protection string at 6315 feet after encountering heaving shale in the Hockleyensis zone in Dolores Garcia 1. The well will drill into the Yegua or deeper.

Another heaving shale project in the Hocklensis is Union Producing Company's deep prospect on the Agua Dulce structure in Nueces County. The well has progressed to approximately 10,700 feet, after finding the shale around 9100 feet. It is the deepest well ever drilled in South Texas and one of the most important from an engineering point of view. Union has successfully drilled and cored to the present level without sticking drill pipe a single time.

I. J. Allen's Rooke 2, discovery well of the Woodsboro field in Refugio County, is being recompleted as a distillate producer in the 5400-foot Frio zone after several attempts to make an oil producer lower in the sand failed to produce commercial results. Perforations were made 5431-33 feet, where the well showed 525 pounds working pressure on drill stem test and sprayed oil and salt water. The pipe was recemented in belief that the salt water was channeling, then perforated again, the result being a similar recovery. The test now is being completed in the upper portion of the sand where it originally was finished as a distillate producer.

New Field or Extension

Humble Oil & Refining Company gives promise of opening a new pool or extending the recently discovered East Plymouth field, San Patricio County, at least one mile to the south. G. B. Henry 1, SE Block 8, Section 27, Taft Subdivision, is going ahead below 4830 feet after a drill stem test of sand at 4811-20 feet recovered 300 feet oil, 50 feet mud and sand and 135 pounds working pressure in 20 minutes. The test cored more sand apparently to 4825 feet and a second test of the entire section recovered 1900 feet of salt water and 550 feet of oily mud. Several sands have been found in the Catahoula between 4363 feet and the present depth. Sand and shale were cored 4470-73 feet and sandy shale with streaks of soft sand were cored 4484-96 feet. A drill stem test at 4469-96 feet recovered a little drilling mud and built up pressure of 750 pounds through ¼- and ⅜-inch chokes in 15 minutes.

Heterostegina Gas Strike

Stanolind Oil & Gas Company has developed Heterostegina sand production on its East Placedo block in Victoria County. This development gives the area 3 producing levels and further suggests that Placedo, East Placedo and Keeran ultimately will be merged into one area. Henderson & Pickering 2, Block 16, Section 2, drilled to 6816 feet, failed in the lower sands and plugged back to 4800 feet. Casing was landed at 4800 feet and cement drilled out to 4761 feet, perforations being made 4723-30 feet. The test made a large gasser with shut-in pressures of 1800 pounds on tubing and 1825 pounds on casing.

Schimmel finds shallow pool in McMullen County

Laredo.—Vernon Schimmel added a new shallow pool in the extreme southern portion of McMullen County when he completed L. Kountz Estate 2 as a small gasser spraying some low gravity crude after perforating in the Cole sand at 1158-62 feet. The discovery well is located 330 feet from the west line and 1650 feet from the north line of Survey No. 5, Block 5, six miles northwest of the Seven Sisters area.

The test found sand 1147-63 feet, drilled

SOUTH TEXAS Completions

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Bexar County—		
Fain, Harrison & Jenkins, Hansen 1, Christopher sur	*	1340
Caldwell County—		
Martell, Young 12-E, Branyon	72	2343
Frio County—		
Thomson, San Antonio Joint Stock Land Bank 1, GBCNRWC sur	†	5686
Gonzales County—		
Heard, Hall & Young, Clarke 1, Armistead sur	*	1556
Guadalupe County—		
Humble, Denman 25-A, Darst Creek	50	2542
Milam County—		
Fuchs, Stork 2, Delgado sur	*	940
Western Gulf Pet. Corp., Battle 1, Leal sur	*	3350

LAREDO DISTRICT

Duval County—		
Cox & Hamon & Gorman-Yoakam, Cuellar 26, Hoffman	151	2857
Humble, White 51, Lundell	80	1539
Magnolia, Duval County Ranch Co. 3 (201), Eagle Hill	¶5	1503
Duval County Ranch Co. 5 (291)	90	1204
Well Est. 8, Hoffman	250	2802
McMullen County—		
Schimmel et al, Kountz Est. 2, E. T. RR sur No. 5	¶3 & 20	2012
Schimmel, Hagist 6 (Loma Alta), Mills sur	*	2297
Starr County—		
Clopton et al, Bass 1-A, Block 5	*	3503
Hall, Guerra 1, Share 259	*	135
Sun Rise Pet. Co., Calderoni, Share 58	*	810
Webb County—		
Rayzor, Fee 1, CCSD&RGRR Co. sur No. 1669	*	1720
Zapata County—		
The Texas Company, Jennings 118, Escobas	30	1290
Transwestern Oil Co., Trevino B-17, Escobas	65	1282

CORPUS CHRISTI DISTRICT

Calhoun County—		
Sinclair Prairie, Bennett 15, Heyser	600	5736
Goliad County—		
Echols, Powers 1, Lovery sur	*	5303
Hidalgo County—		
Pantano, Engleman 1-B, La Blanca	250	7853
Jim Wells—		
Magnolia, Valadez et al 1, Share 5-B	¶22	6419
Live Oak County —		
Holland and Smith, Bonham et al 1 (Ezzell), Block 59	*	1867
Kelley et al, Nichols 1, Henry sur	*	1000
Nanjoe Oil Co., Brown 1, sec 75	*	2000
Nueces County—		
Hilburn, Heuerman 1, Saxet	65	4800
Houston Oil Co., McGregor 14, Saxet	600	7358
The Ohio, Shaffer 3, Luby	475	5190
Reed, Roper 1, Clara-Driscoll	175	5390
Seaboard, Luby 30, Luby	500	4364
Seaboard, Shaffer 10, Luby	500	5064
Stanolind, McCann 12, Luby	40	5066
Spessard 13, Luby	*	5082
Refugio County—		
Copano, O'Connor 4, Tomoconnor	1300	5920
O'Connor 6, Tomoconnor	1200	5918
Hewitt and Dougherty, Lambert 74, Tomoconnor	600	5910
Quintana, Heard 21, Tomoconnor	2800	5925
O'Connor 31-C, Tomoconnor	3250	5925
W. R. R. Oil Co., Mission Riverbed 2, Refugio	450	4913
San Patricio—		
Plymouth, Cole Est. 1-D, East White Point	450	5660
Victoria County —		
Echols, Lander 3-B, Heyser	750	5599
Edwards Drilling Co., Carpenter 1, E. Telferner	*	5650
Magnolia, Lander 8, Heyser	600	5484
Stanolind, Henderson & Pickering 2, ne Placedo	¶15	6816

*Failures; †Junked; ¶Million cu. ft. gas.

to 2012 feet, then plugged back, setting casing at 1280 feet. Tests through ¼-inch choke for six hours showed pressures of 195 pounds on tubing and 250 pounds on casing, and on ⅛-inch choke 295 pounds on tubing and 395 pounds on casing. The well showed salt water with oil shows in the lower sands.

There has been considerable of this shallow exploration along the Mirando trend during the last several months, with numerous spots being placed on the production list.

Merle E. Morton's Laurel Brothers 1, ½ mile southeast of the Houser discovery and ½ mile northwest of Killam field, McMullen County, is reworking after making a gasser spraying a small amount of oil from the Mirando sand at 2013-20 feet. It showed 170 pounds pressure on tubing, flowing through ¼-inch choke, then built up to 450 pounds when shut in. The test may be deepened to the Rosenberg sand. About one mile east of Oilton production, Appell et al's Laurel 1, Section 1006, is coring for the Rosenberg sand. It had salt water in about 55 feet of Mirando sand topped at 1985 feet.

South Sweden Extended

Hiawatha Oil & Gas Company's Miller et al 5, Section 23, and 4700 feet west of the South Sweden Field production, Duval County, is being completed to extend the field and open a new sand in the Jackson formation. With an elevation of 400 feet, derrick floor, it found saturated sand 4909-12 feet, drilled to 5984 feet then plugged back to 5033 feet. Sandy lime and sand was found at 5977-84 feet. The regular 5800-foot zone failed to provide production.

Wildcat on Pharr prospect disappointing when tested

Mission.—Pharr prospect in southern Hidalgo County was not looking so bright late in the week as several attempts to complete R. E. Harding and Pantano Petroleum Company's Woody (Lynn) 1 developed salt water with a little gas. The well was perforated at 7103-15, feet then at 7074-82 feet. The water at the upper level was believed to have been as a result of channeling and the hole was squeezed for further tests. Should exploration fail at this level, a test will be made at 6660-6715 feet, another sand which indicates distillate production. The test, in Block 202, Kelly-Pharr Subdivision, Porcion 69, is 1 mile southwest of the Pharr Townsite. It is testing in the Frio zone.

Kubela spacing

Twenty-acre spacing for wells in the Kubela field, Wharton County, is provided in an order issued by the Texas Railroad Commission last week. The regulations provide for 1200 feet of surface casing set with 300 sacks of cement and an oil string set with 300 sacks of cement. Four thousand-pound test Christmas tree and well-head fittings are required, and operators must set tubing no higher than 50 feet above the top of the sand.

Proration is on the basis of acreage and per well, with 50 percent assigned on each factor. Potentials for flowing wells must be taken through an eight-inch positive choke six inches long over a period of 24 hours. Pumping tests are to be taken for 24 hours through 2½-inch tubing. A maximum gas-oil ratio of 2000/1 is provided.

Texas Gulf Coast

Miocene sand discovery at Cedar Point important.

Fairbanks northeast outpost killed again to test.

Sun plugs back to sidetrack in Bolivar wildcat.

Houston.—A shallow producing formation, definitely a part of the Miocene section, has been opened in the Cedar Point field, Galveston County, by Standard Oil Company of Texas and Salt Dome Oil Company. The well, State 1-94, was drilled to 6450 feet, but the Frio sand checked low and carried salt water. After plugging back to 3653 feet and sidetracking, the test was redrilled to 4430 feet to test shallower formations that had been logged. Top of the oil sand tested was encountered at 4413 feet, and a drill stem test made with the seat at 4390 feet. On a 10-minute flow test the well made a strong showing. A stuffing box and flow line were installed to prevent pollution, and after flowing a small amount of mud the well flowed pipe line oil. The working pressure was 85-100 pounds, and it was not necessary to swab the well in the usual manner to start the flow. A string of 7-inch casing was cemented at 4410 feet, and the well will be completed as the first shallow producer in the new field. The strong showing of the upper Miocene sand is regarded as an important development in a field located entirely in Galveston Bay. It points to a large producing acreage in the more accessible sands.

Commerce Oil Company's Meadowbrook 1, J. R. Harris Survey, Harris County, has been drilled to 8501 feet, but no recent oil shows have been reported. Streaks of heaving shale were encountered, but it is believed that the objective depth of 9000 feet can be reached. Good oil showings were logged between 7800 and 7900 feet, and tests of these sand streaks will be made if more promising sands are not found.

Goodykoontz 1 Killed Again

Union Producing Company's Goodykoontz 1, one mile northeast of production at Fairbanks, Harris County, has been killed again for a test of a sand body around 7170 feet. This formation showed promise on an electrical log test recently. The well was originally drilled to 7217 feet, but showed salt water on a production test.

Abandonment near the Friendswood field of Humble Oil & Refining Company's Gavin et al 1, A. M. Gentry Survey, helped to define the producing limits of the field. The failure, an extreme northwest extension, was located in doubtful territory and its abandonment was not a surprise. The well checked considerably lower on structure than producing wells.

Sun Enters Clinton

Sun Oil Company has actively entered the Clinton field, Harris County, with the announcement of location for Oates 1, in the Reels and Trobough Survey, 2000 feet west of production and 1800 feet southwest of Stanolind Oil and Gas Company's Barraco 3, now drilling as a slight extension well.

H. C. Adams has been making fast time in P. I. Sury 1, wildcat in the Needville area, Fort Bend County, having passed a depth of 3680 feet during the past week. No important markers were logged.

Sun Oil Company has reported no important shows in C. Jordan 1, wildcat test in the Batson Prairie district, Liberty County, the well having been drilled to 8000 feet in a few weeks.

The steady stream of completions in the Fairbanks field, Harris County, reflects the activity in this important producing area. With an initial yield of 500 to 800 barrels each daily, new wells in the field are establishing a substantial potential from the 6800-foot level.

G. C. McCarthy has announced location for G. C. Street 1, Pearland area, Harris County, D. H. McHunter Survey.

Hardin Outpost Abandoned

Woodley Petroleum Company last week abandoned Lynott-Buffam 1, north extension well near the Hardin field, Liberty County, at 7905 feet. The

TEXAS GULF COAST Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Barbers Hill—		
Atlantic Ref. Co., J. Schilling 1	465	5615
Danbury—		
Rowan Drilling Co., Jamison 6	160	2141
Dickinson—		
F. W. Bennett, S. Levine 3	425	8088
Humble, Wilson 2	80	8067
M. Stewart D-1	810	8838
Eureka—		
Jack Frazier, Vollmert Neiman 3	500	7757
Means & McGehee, L. Lackner 1-B	635	7740
Fairbanks—		
Skelly Oil Co., Emmett 1	150	6843
Smith & Ownby, J. Stephens 1	675	6856
Williams & Thompson, Marietta 1	615	6838
Windsor Oil Co., O. F. Parker 1	700	6844
Fresno—		
Sam E. Wilson, M. T. Wood 1	*	6852
Friendswood—		
Humble, Beamer 15	600	6055
Beamer 16	600	6043
Gavin et al 1	*	6384
Hardin—		
Humble, Partlow 2	500	7640
Shell and Glenn McCarthy, W. J. Green 1	130	7759
Woodley Pet. Co., Lynott-Buffman 1	*	7905
Hastings—		
Humble, Schindler 10	575	6055
Silsbee—		
Republic Prod. Co., Winton 2	1350	6920
Tomball—		
Humble, Michel 2	¶2½	5554
Mueller 1-B	300	5552
Thompson—		
Gulf and Humble, A. E. Meyers 14	90	3172
West Columbia—		
Frost & Dunnam, E. C. Parker 3	*	970
M. Hogg, Varner Fee 1	210	3466

*Failures; †Junked; ¶Million cu. ft. gas.

rig was skidded to another location, Davis 1 in the A. B. Hardin half league.

Sun Oil Company has plugged back to 7328 feet in Cade & Company 1, Bolivar prospect wildcat, Galveston County, and will sidetrack the old hole. This well was drilled to a depth of 8105 feet, but various mechanical difficulties checked progress.

An extension to the South Cotton Lake field was still being sought last week by J. R. Turnbull, who was attempting to complete Julia Casey 1 in a sand encountered between 6465 and 6595 feet. The well is located southwest of production in the S. Barrow Survey. The action of the well in alternately flowing clean oil and cut oil indicated that at least one of the two or three sands was capable of producing oil satisfactorily. The upper sand now under test looked most promising.

Texas permits up 61 from previous week

The Texas Railroad Commission last week approved permits for drilling 309 new wells in Texas, 61 more than were approved the week before.

There were 25 permits approved in the East Texas field, including 16 in Gregg, 7 in Rusk, 1 in Smith, and 1 in Upshur County. Operators in the East Central Texas area reported 13 new locations.

Permits for drilling 94 new wells were approved in the Gulf Coast area, including 22 in Refugio County and 21 in Harris County. Southwest Texas operators reported 43 locations, with 13 in Duval County.

The commission approved 40 new locations in West Texas, while 15 were allowed in West Central Texas.

North Texas producers reported 74 locations, including 58 in Wichita County, while 5 permits were approved in the Panhandle.

Hamman field rules

Twenty-acre spacing for wells in the Hamman field, Matagorda County, is provided in an order issued by the Texas Railroad Commission last week. The order also requires 1200 feet of surface casing cemented to the surface and an oil string set with 500 sacks of cement.

Extra-heavy well-head fittings are required for wells producing below 8500 feet. Proration is on the basis of acreage and per well, with 50 percent allocated on each factor. A maximum of 30 acres may be assigned to one well.

Louisiana permits

Shreveport.—Thirty-four drilling permits were issued last week by the Louisiana Conservation department. Twenty-one were in North Louisiana divided among the following parishes: Bossier, 2; Caddo, 1; Claiborne, 5; Grant, 1; Sabine, 3; Union, 5; Webster, 4. The 13 in South Louisiana were divided among the following parishes: Acadia, 3; Ascension, 1; Cameron, 3; Iberia, 1; Plaquemines, 1; St. Landry, 2; and Terrebonne, 2.

South Louisiana

Convent-Hester wet gas accepted as encouraging for oil. Still trying for production in second deepest drill hole.

Lake Charles.—Completion of Continental Oil Company's Realty Operators 1, wildcat test on the Convent-Hester prospect, St. James Parish, was an important development during the past week in southeast Louisiana. The new well, located along the Mississippi River in Section 17-12s-5e, was completed at 6366 feet with an initial flow of 81 barrels of gasoline and distillate and 5,000,000 cubic feet of gas, having been plugged back from 7499 feet. This is the first production of any kind in St. James Parish and probably will lead to more intensive development in the general area. The well is flowing through 21/64-inch choke from perforations between 6358 and 6365 feet. A blowout occurred at 7499 feet, but a successful completion was effected after mechanical difficulties were overcome.

The Convent-Hester structure was discovered by Shell Petroleum Corporation in 1935 with reflection seismograph. Shell drilled two wells on the prospect and later farmed it out to Continental Oil Company. The discovery of wet gas is regarded as a favorable indication for a more substantial production. The general location is about six miles east of Convent.

The Texas Company has encountered salt at 4922 feet in State Coon Point 1, Caillou Bay prospect, Terrebonne Parish, a test located about 14,400 feet from the United States Coast and Geodetic monument on Derniere Isle. This well reported several important oil shows above 4000 feet, and tests of these shallow sands probably will follow the unexpected discovery of salt. The best sand was logged about 3960 feet.

Shell Petroleum Corporation has recovered the fish in Jeanerette Lumber Company 1, wildcat test in the West Lake Verrett district, St. Martin Parish, but has reported no recent shows. Faint odors and cuts were logged around 10,140 feet, and drilling was continued to 10,490 feet in hard sand.

Amerada Petroleum Corporation has drilled to 11,545 feet in South Coast 2, deep Raceland test, Lafourche Parish, no significant oil shows having been reported. The company's Godchaux Sugar 1, in the same field, remains idle at 11,315 feet. This field is one of the most interesting producing areas in South Louisiana, and reflects the great thickness of oil bearing sediments that may be drilled with comparative ease.

Continue Trying Deep Hole

Fohs Oil Company continues to try for production in State Bay Batiste 1, record deep wildcat in the La Terre area, Terrebonne Parish. This well was drilled to 13,409 feet to become the second deepest well ever drilled, but recent efforts have been directed toward obtaining production at shallower levels. A drill-stem test at 9000-9010 feet showed dry gas. The well was plugged back to 8800 feet and another zone will be tested at this level. Several showings were logged at various levels.

Barnsdall Oil Company has abandoned R. R. Barrow Estate, located north of Bourg, Section 41-17s-18e, after drilling to 10,785 feet in remarkably fast time. Faint gas shows were reported around 9210 feet, and a water sand was logged between 10,450 and 10,530 feet.

Pure Oil Company last week abandoned Calcasieu National Bank 1, north of Mallard Bay, Section 18-12s-4w, Cameron Parish, having drilled to 8293 feet in brittle lime and shale. No shows were reported.

Abandonment of The Texas Company's State Vermilion Bay 2-B, in the Vermilion Bay district, was reported last week. The final depth was 9667 feet. This well gave much mechanical trouble, and was abandoned after various difficulties were overcome. The well blew out at 9667 feet, but made only dry gas. A second blowout occurred at the same depth, but no damage was done. The drilling barge was moved, but it is possible that further work will be done in the original hole.

Republic Production Company abandoned Sabine Tram 1, 5 miles west of Starks, 25-8s-14w, Calcasieu Parish, at 9540 feet. This wildcat was originally drilled to 9670 feet and was reported to have developed a high gas pressure. The well was abandoned after an unsuccessful workover attempt. The test was started by Federal Petroleum Company.

New Locations

Atlantic Refining Company has announced location for Klumpp 1, a wildcat northeast of Tepetate, Section 12-7s-2w, Acadia Parish.

Sun Oil Company has made location for Lutcher-Moore 2, a wildcat in the

SOUTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Anse La Butte—		
Butte Oil Co., Billeaud 2	*	2000
Jennings—		
Guaranty Oil Co., Houssiere 1	250	1765
Leeville—		
The Texas Co., Leeville 69	385	6537
Welsh—		
A. V. Peters, Fee 3	10	1020
Calcasieu Parish—		
Republic Production Co., Sabine Tram 1	*	9540
Cameron Parish—		
Pure Oil Co., Calcasieu Nat. Bank 1	*	8293
Iberia Parish—		
The Texas Co., State Vermilion Bay 2-B	*	9667
St. James Parish—		
Continental Oil Co., Realty Operators 1	*	7499
St. Tammany Parish—		
O. B. Phillips, A. J. Blanche 1	*	3118
Terrebonne Parish—		
Barnsdall Oil Co., R. R. Barrow Estate 1	*	10785

Failures; †Junked; ¶Million cu. ft. gas.

Lunita area, Section 12-8s-13w, Calcasieu Parish.

A new wildcat location has been announced in St. Landry Parish by Herton Oil Company, the influence of the Sparta trend having been a factor in the move. The well, Thistlewaite Lumber Company 1, is located in the Beggs area, Section 60-4s-4e.

Humble Oil & Refining Company is drilling out cement retainer at 7174 feet in Olenforst 3, North Crowley field test, and will attempt to complete the well at 7194 feet. The company has announced a new location in the field, Thevis 1, which is an offset to Olenforst 3.

Amerada Petroleum Corporation was drilling below 9900 feet last week in State 4, Bayou Des Allemands field, St. Charles Parish, a depth considerably below the established producing level for the field. The formation was running stringly to shale, but promising gas sands were logged around 940 feet.

Continental Oil Company has reached 10,751 feet in Joe Sturdivant 1, wildcat in the South Roanoke district and the deepest well ever drilled in the area. The last formation reported was sticky shale. This well tried to blow out at 10,333 feet and at 9713 feet. It is regarded as an important test.

An important deep producing zone for the Valentine field, Lafourche Parish, was indicated last week by the performance of Pan American Production Company's Community B-2, which flowed 3000 feet of oil in 7 minutes on a drill stem test at 9300 feet. This well was drilled to 10,055 feet, but was plugged back for a test of formations logged around 9000 feet. Seven-inch casing has been cemented at 9290 feet.

North Louisiana Fields

Development of Shreveport field still waiting on rules. Sugar Creek gas production area extended half-mile.

Shreveport.—A hearing to discuss and consider rules and regulations covering well spacing, drilling operations and production of oil and gas in the new field adjacent to the Shreveport city limits, has been called by Conservation Commissioner William G. Rankin for August 12, at Baton Rouge. The meeting will start at 10 o'clock in the supreme court room of the state capitol.

Since R. E. Allison completed Ellerbe 1, Section 27-18-14, 1 mile northwest of the city limits, on July 15 from the 5500-foot level in the Glen Rose, making 500 barrels daily through ¼-inch choke, the foremost question among operators has been that of spacing.

Numerous statements have been issued in opposition to a 40-acre spacing for the area, recommended by the Shreveport office of the conservation department. The starting of a number of wells in the area of the discovery has been held up awaiting for some regulation to be set for the spacing.

In the meantime, however, leasing and royalty buying in and on all sides of Shreveport continued at a brisk pace, with townsite lots coming in for a big part in the play.

Operators in the Cotton Valley field, Webster Parish, at a meeting last week, recommended to the conservation commission a spacing rule of 1 well to 80 acres for oil producers from the lower Marine zone in the field. Two oil wells have been completed recently from this zone on the south flank of the field. All production heretofore from this zone has been gas and distillate. These wells too are spaced to 80 acres. A number of new tests have been started to further explore the horizon for oil production. Five new producers were completed in the area last week.

W. L. McClanahan's Frost 1, Section 22-9-13, east of the shallow Converse field, Sabine Parish, was waiting orders at 5709 feet, contract depth, in the Glen Rose. Operators are undecided whether to set casing and test fair porosity shown on electric log from 5500-5525 feet in the Glen Rose or test another showing from 3028-50 feet at the contact of the upper and lower Cretaceous.

In Concordia Parish, northeast Louisiana, Paul G. Benedum & Harry McCormick of Houston, Texas, prepared to spud L. P. Allen 1, Section 35-5-7, on a spread of about 34,500 acres.

New wildcat drilling blocks in two areas of northeast Louisiana have been assembled by Gulf Refining Company, both after gravitometer surveys. In Franklin Parish, the company has taken a block in Sections 15, 16, 17, 21, 22 and 23, Township 15, Range 8. In Richland Parish, the company is finishing a block around Section 30-17-9.

Northeast limits of gas production in the Sugar Creek area, Claiborne Parish, were extended ½ mile last week with Union Producing Company completing Sims A-1, Section 29-20-5, making estimated 40 to 50 million cubic feet of gas daily at 5630 feet. The hole had been plugged back from 6050 feet and 9⅝-inch casing set at 5573 feet after failing to find productive sand zone in the Travis Peak.

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo Parish—		
W. J. Hutchinson, Fee 2, 3-15-12.	¶½	1911
Claiborne Parish (Lisbon)—		
Harry Fotiades, C. C. Whitman 2, 2-20-5	500	5329
Gulf, Patton 2, 12-20-5	525	5392
Love Pet. Co., English 2, 29-21-4	475	5108
Magnolia, Patton 3, 7-20-4	425	5329
Webster (Cotton Valley)—		
H. L. Hunt, Bodcaw-Stewart 2, 33-21-10	435	5945
Magnolia, Crichton No. 1, 33-21-10	650	8415
Ohio, Bodcaw 4, 33-21-10	1055	5830
Ohio-Union, Tillman-Gleason 1, 28-21-10	430	8365
Union Prod. Co., Josey 1, 27-21-10	725	8145

*Failures; †Junked; ¶Million cu. ft. gas.

Arkansas Fields

Village offset gets too much salt water on test

El Dorado, Ark.—The new Village Permian lime field in Columbia County was given a set-back last week as Fohs Oil Company's Phillips 1, Section 15-17-19, southwest offset to the discovery well, showed mostly salt water and little oil on a drill-stem test after casing was perforated from 7480-85 feet with 20 shots.

The test was made following recovery of 118 joints of tubing lost in the hole. Casing was set at 7404 feet and total depth is 7424 feet.

It is expected that operators will squeeze off perforations and re-shoot for a new test.

In the meantime, a third well reached the lime. Standard Oil Company's Crumpler 1, SW NW 15-17-19, west offset to the discovery logged top of this formation at 7356 feet and was coring at 7411 feet.

In the Buckner area of Columbia and LaFayette counties, Standard Oil Company was swabbing Warren 1, Section 18-16-22, at 7254 feet, looming as the sixth producer for the field, producing from Permian lime. In the same area, Standard's J. P. McKeon 3, Section 7-16-22, set producing string of casing at 7205 feet with total depth of 7257 feet.

Samuel S. Alexander of Fort Worth, Texas, is curing titles on a block of approximately 12,000 acres centering around Section 6-11-14, Calhoun County and extending over into Ouachita and Dallas counties, preparatory to starting a 4500-foot test to the Permian lime. The block, northeast of Bearden, calls for starting of a test by September 1. Acreage was assembled by F. E. Slaughter and T. R. Roberson.

In Hempstead County, north of McNab, H. D. Easton et al are assembling a block centering around Section 20-12-16, for a 3500-foot test. Operators drilled a well to 3511 feet about 3½ miles north of the proposed new test.

Patterson & Boren of Oklahoma City, are taking an 8000 acre block centering around Section 12-12-30, Little River County, north of Ashdown, for a 3500-foot operation. In Ouachita County, 7 miles northwest of Buena Vista, R. A. Bristol is taking a lease spread centering around Section 25-13-19.

El Dorado, Ark.—Two permits to drill were authorized last week by the Arkansas Board of Conservation. The permits by counties follow: Johnson County—Arkansas Louisiana Gas Company's W. C. Hudson et al 1, 1407 feet east and 710 feet north of SWc S½ NW 14-10-24; and Union County—Roberts & Murphy's Justiss 2, 330 feet south and east NWc Lot 6, SW 7-18-17.

ARKANSAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Union County (Schuler)—		
Lion, Dee 1, 17-18-17	1100	7656
Marine, Carroway 1, 18-18-17	920	7650
Phillips' Marks 4, 18-18-17	750	7597

*Failures; †Junked; ¶Million cu. ft. gas.

California Fields

Miocene showing probably will revive Rosecrans drilling. Joint account arranged for test at East Montebello.

Los Angeles.—The Los Angeles basin has witnessed about as many unexpected drilling booms as any district in the state. And predictions are being made that a new one is to be launched in the newly revived Rosecrans field, now that the Miocene has proved itself profitable.

This week marks the beginning of another chapter in the life of an old test, Stevens 1, situated in the southwest corner of the intersection of Figueror street and Rosecrans avenue. This project was drilled to 6305 feet in 1932-1934, and suspended before a conclusive test —it did not explore deep enough. John Marrion is going back into the old hole and will undertake to carry it into the Miocene, around 7115 feet.

The reason for the activity in the Rosecrans field is the crude produced there brings the highest price of any in the basin. It runs around 33 gravity and is obtained at a depth above 7900 feet. Universal Consolidated Oil Company's latest completion, Trust 4, near the corner of Rosecrans and Figueror, rated 2000 barrels daily at 7880 feet. Superior Oil Corporation is completing rig foundation for Maxwell 10 near Rosecrans and Main, while Union Oil Company's Rosecrans 22 is drilling below 7700 feet and is slated for completion within a week.

Market advantages have accounted for much of the new drilling activity in the old Montebello field, and to the new development in the west extension to this important basin field. Major companies control most of the large productive properties at Montebello, but the proving up of outside land has brought into the field the smaller independent factions who have turned it into an interesting campaign. St. Helens Petroleum Company has just brought in Monterey 28, at 5600 feet, for an initial yield of 1200 barrels daily and the company's Eggleston 2 is coring below 5500 feet and probably will be on production within 10 days. Gus Pongrantz has completed rig foundation for No. 1 at Beverly and Maple, while V & E Oil Company's Estelle 1 at the west edge of the field is being prepared for completion at once. McVicar & Rood's Manz 2 has been recemented at 6259 feet. Standard Oil Company's McDonald 1 has been reamed to 6245 feet and is scheduled for a production test in the sixth zone.

A group of operators have decided to make a combination test in what is described as the East Montebello extension. F. E. Fairfield, Richfield Oil Corporation and The Texas Company have supplied the necessary dry hole money to promote this new venture. The initial project will go down on a portion of the Gregg lease of 100 acres near the intersection of Guirada Street and Beverly Boulevard.

With the discovery of Wasco field by Continental Oil Company the development of a deeper horizon at Coalinga Nose, Fresno, and active drilling programs being carried on at Canal, Ten Sections, Rio Bravo and Greeley, new interest is being manifested in the Famosa territory where Shell Oil Company's A-83 is reported to have encountered oil sand after penetrating top of the Eocene around 10,100 feet. If this is true, it is the first time the Eocene has been tapped on the east side of the valley and is held to be a significant development. The test was to determine if the Vedder could be topped but it revealed this formation absent and drilling was resumed in the belief that deeper exploration would ultimately bring a break. Shell Oil Company and Tide Water Associated Oil Company control approximately 5000 acres near Famosa.

That oil operators are indicating their approval of the efforts of Lawrence Vander Leck, re-elected chairman of the Central Committee of California Oil Producers, to bring stability to the California crude market is shown by the complete shutting in of wells at Lakeview for another 10-day holiday period. During the first 10 days of the current month, Lakeview producers will effect a curtailment of approximately 16,000 barrels daily, or 160,000 barrels for the period. On August 11, when the field reopens, major operators will observe their daily allowables and the minor operators will not undertake to make up any of the oil shut in during the first 10 days.

CALIFORNIA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Montebello—		
Union, Howard & Smith 2	610	5513
Torrance—		
Allison & Oglesby, No. 1	465	4993
Consolidated Petroleum, No. 2	784	4961
Elexico Oil, Allen K2	350	5013
Jones-Long, VonTrik-Lyon 1	300	5023
Packard Petroleum, Lomita 2	515	4960
Wilmington—		
General Petroleum, Channel 3 Community (LB) 6	140	3170
Harbor Comm. (LB) 40	165	3015
Republic Petroleum, Harbor (LB) 3	2300	4060
Seigna Drilling, No. 17	190	3720
Union Pacific, UP (LB) E-11	2100	3942
Canal—		
Ohio, KCL E-7	2580	8260
Kettleman North Dome—		
Standard, 46-13H	140	10839
Lost Hills—		
Randon Petroleum, Theta 1	125	1625
Midway Sunset—		
Midway Peerless, No. 17	30	1211
Ten Section—		
Shell, KCL A-56	2350	8220
Santa Maria Valley—		
Sunshine, Wallace-Garrod 1	500	4193
Belridge—		
Shell, Vlight 4-1	*	910
Devils Den—		
H. L. F. Oil, No. 1	*	88
Edison—		
Ray W. Stevens, No. 1	*	1105
Kern River—		
Alfred Fuhrman, No. 25	*	710
Midway Sunset—		
Texas Co., Pioneer Unit Plan 1	*	8869
Round Mountain—		
Ring, L&S 1	*	2340

*Failures; †Junked; ¶Million cu. ft. gas.

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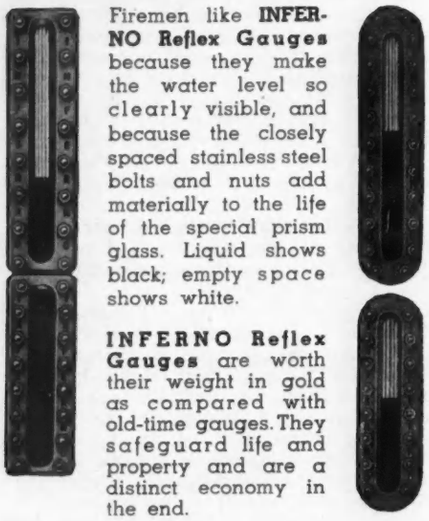

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Illinois Developments

New fields in state producing 40,000 barrels daily.

Washington County added to Illinois producing area.

Lake Centralia production extended two miles southeast.

Olney, Ill.—New Illinois fields are producing 40,000 barrels of crude a day from 750 wells, an average of 53 barrels per well per day, Dr. M. M. Leighton, chief of the state geological survey, told a gathering of oil men and land owners attending a meeting August 1 at Vandalia, Fayette County.

Extensive use of new scientific technique in the exploration for oil and development of the fields characterizes the new oil activity in Illinois, Dr. Leighton said. Geophysical methods, particularly the reflection seismograph method first used in the Basin area by the Pure Oil Company, have been highly successful in locating favorable structures.

First use of the rotary in Illinois was late in 1936, and since then the majority of wells drilled have been rotary wells, he added. With the introduction of the rotary to Illinois came other techniques strange to the old Illinois fields, including cementing of casing, electrical surveys and field testing of cores.

Washington County was brought into the Illinois Basin producing area last week when Earl W. Thompson's J. Musial 1, Section 19-3s-1w, DuBois Township, drilled by Thompson Drilling Company, found a Stein sand saturation which an electric test revealed sufficient to make at least a fair producer. Casing was set to 1235 feet in that formation. Bottom is at 1262 feet. Acreage in this section of the county is widely held, directing more than usual interest to the wildcat. Several previous attempts to gain Washington County production resulted in dry holes.

Salvage Oil & Gas Company's Reinkenmeyer 1, Section 11-1s-1w, Irvington Township, now at 1000 feet, is the only other active operation in Washington County. Announced for immediate drilling was C. E. Lange's R. Paul 1, in Lively Grove Township.

In the northern part of the Basin George Parker's Dora Hobbs 1, Section 33-14n-8w, Waverly Township, 2½ miles northwest of Waverly, reported an oil show sufficient to make a commercial well at 945 feet. Whether the test would be deepened or completed at its present depth could not be immediately determined.

Lake Centralia Extended

The new Lake Centralia field of Marion County was extended 2 miles to the southeast and an additional half mile to the south last week. Mammoth Refining Company's Bachman 1, Section 9-1n-2e, recovered 11 feet of Benoist saturation and ran 7-inch casing. The saturation was found 175 feet lower than at The Texas Company's Tate 1 discovery, and for a time was considered running too low to make a good producer. Bottom is at 1893 feet, and the hole is shut in after it filled with oil following drilling of the plug.

Dr. Jay G. Wanner's Raccoon School

ILLINOIS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Clay County—		
Pure, C. D. Duff 1	861	3015
Moseley 2	609	2948
Moseley 2A	467	3049
Tetrick 4A	438	3034
Olson Drl. Co., Madding 1	550	3084
Ohio, Hardy 1	459	2969
Clinton County—		
Ray et al, Home Bldg. & Loan 3	260	1382
Bell O. & G. Co., Kennedy 1	250	1381
Schilling 1	100	1382
Carpenter & Goldberg, CB&Q 2	190	1343
Halverson Oil Co., Marshall 1	170	1381
Amer. Seismograph Co., Foutch 1	168	1383
Shell, Lippert 4	166	1347
Hanseman 4	100	1346
Allison 7	82	1383
E. M. Smith, Gutzler 1	150	1376
W. C. McBride, Inc., Allison 1	140	1385
Brown et al, H. Fortney 2	90	1390
Crancher et al, Millmaker 1	80	1390
Boyce & Welch, Meisgin 1	80	1390
Adams O. & G. Co., Felton 3	62	1347
Anderson, Kissel 1	30	1382
A. B. Prather, Hanseman Est. 1	*	1384
Crawford County—		
Hastings et al, Athey 1	*	2949
Edgar County—		
A. M. Myers, Brinkerhoff 1	*	550
Effingham County—		
Penn-Illinois O. & G. Co., Niehoff 1	*	2700
Fayette County—		
Carter, Logsdon 3	366	1508
J. Sloan 1	167	1596
Babcock et al, Rhodes 2	100	1600
Minerva Oil Co., Vereruysse 1	*	1512
Jefferson County—		
Carter, Dobbs 2	204	1963
Douthit 2	55	1966
Marion County—		
H. Brians, Nattler Hrs 2	200	1274
W. F. Lacy, Cole 1	125	1380
Capital City Dev. Co., Hubbard 1	15	1391
Sparta Oil Co., Kalberkamp 1	10	1399
John Pugh Drl. Co., Webster 1	*	1601
Redwing, Puffer 1	*	1430
Samuel & Dyke, Brueggman 1	*	1949
Conrey et al, Hight 1	*	2000
Joe Murphy, Taylor 1	*	1394
Richland County—		
Pure, Ashmore 1	319	3120
Saline County—		
Bolton et al, Beagle 1	*	2601
Washington County—		
Morris et al, Koesten 1	*	1238
Wayne County—		
Pure, Fearn 1	*	3200
Gulf, Wilson 1	*	3250

Failures; †Junked; ¶Million cu. ft. gas.

H-K CLINOGRAPH
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1, Section 6-1n-2e, flowed 500 barrels by heads in 13 hours from the Benoist sand before being shut in to await pipe line facilities. The Benoist sand in this pool extender is between 1719-37 feet.

Closely watched as a possible westerly extension was I. D. Lain's A. Dempsey 1, three quarters of a mile from present production, which was drilling at 1655 feet. Sole northern outpost was Loper et al's H. F. MacRoberts 1, Section 32-2n-2e, drilling at 1560 feet. Other operations in this new field, which finds completed wells shut in for lack of storage or pipe line facilities, include The Texas Company's Mary Williams 2, casing cemented at 1642 feet; its Reed 1, casing cemented at 1658 feet; its Mary Williams 1, drilling at 1697 feet, and its Tate 2, drilling at 530 feet.

A second unsuccessful attempt to gain McClosky sand production in the Centralia pool was registered with Gill & Crosby's M. Gibson 1, in the 500 block of East Kell St., Centralia, abandoned at 1862 feet. Due east of Centralia, 3½ miles, the Dr. G. N. Welch 1, Section 2, Centralia Township, found both the Stein and Benoist sands dry and was drilling at 2146 feet at last report. The test will be carried to the McClosky level.

Illinois Oil Development Ltd.'s Frazier 1, east of Centralia, Section 17, Centralia Township, passed through the Weiler sand, a member of the Chester series heretofore not found in the Centralia pool. Broken saturation in the Stein sand was found between 1699 and 1750 feet, but its value was not determined. Operators, now drilling at 1822 feet, decided in favor of continuing for a test of the Benoist. The well will be plugged back if satisfactory production is not obtained in the lower sand.

Wildcats in Wayne County commanded interest in the deep Basin area. Sloan et al's Walker 1, Section 16-3s-9e, was drilling at 2800 feet and its prospects should be known during the week. Pure Oil Company's Chaffin B-1, Section 19-2n-8e, was drilling at 2100 feet, while Duncan et al's Steve Ullum, Section 22-2n-8e, was awaiting rig. The latter two tests are in Zif Township.

The recently opened pool six miles southwest of Fairfield, Wayne County, may be confirmed within the week. H. H. Weinert's Morlan 1, Section 33-2s-7e, had casing set to the McClosky at 3340 feet. It was this company's R. C. Twist 1 that opened the pool several weeks ago. Derrick is up for the R. C. Twist 2, Section 33-2s-7e. Also near completion in this area was The Texas Company's Kuntz 1, Section 33-2s-7e, which was drilling at 2500 feet.

Confirmation of Ohio Oil Company's new pool north of Flora, Clay County, opened by Hardy 1, may be had within a few weeks. This company's Stanford 1, Section 9-3n-7e, was awaiting rig last week.

Penn-Illinois Oil & Gas Company announced a test for its 4000-acre block near Boag, Madison County, a section which has not yet been tested. Other scattered operations commanding interest were: Continental Oil Company's W. C. Eveland 1, Section 33-7n-9e, Jasper County, coring at 2700 feet, and W. E. Neal et al's Pfeffer 1, Section 20-2n-6w, St. Clair County, drilling at 580 feet and believed to be within 50 feet of the Benoist sand.

Eastern States

Further extension of Birk City field favorably indicated.

Indiana's deepest operation nearing Devonian objective.

Pittsburgh.—W. E. Hupp et al's Cunningham 1 was being closely watched last week as providing a possible extension to the Birk City pool of Henderson and Daviess counties, Kentucky, ½ mile to the northwest. The well cored a favorable McClosky saturation early in the week and casing was set and cemented. A cable rig was being moved in to complete the job.

Thompson Drilling Company and Kentucky Natural Gas Company's B. Gilmore 1, 2 miles west of the center of operations on the Henderson County side of the new field, was reopened last week and given a small acid treatment after having been reported abandoned at 2115 feet over a month ago. A small flow resulted and casing was recemented, after which a larger dose of acid was given. Production was at the rate of 40 barrels an hour following the second treatment. The well was closed in when the available 600 barrels of storage was filled.

Carter Oil Company's C. A. Dempewolf 2 encountered sulphur water at 2005 feet and was preparing to plug back to 1270 feet where a gas pocket passed through is believed good for 12,000,000 cubic feet a day. The well, which drilled through the McClosky sand, is the first to have encountered sulphur water in this field.

Sun Oil Company and Kentucky Natural Gas Company's J. C. McHatton 1 encountered salt water shortly below the 1900-foot level, and was shut down for orders. The test adjoins the K. A. Jones lease, where a large gasser was obtained by J. C. Ellis et al.

Other interesting operations on the Henderson County side included: Aetna Oil Service's O. Banham 1 is producing 200 barrels a day after acidization; this company's C. A. Dempewolf 1 swabbed 400 barrels of oil in 19 hours, and C. A. Dempewolf 2 was being started; Jesse Ashby's Sapp 1 recovered an excellent McClosky core and was preparing to drill in after cementing casing; W. E. Hupp et al's O. L. Boswell 2 was preparing to core; Miller & Shiarella's Rash 1 was at 1700 feet, and Hoosier Drilling Company was preparing to drill another test on its discovery lease —C. T. Blackwell 7.

In outlying sections of Henderson County, Gulf Refining Company was moving in equipment for O. Busby 1, ½ mile south of Hebbardsville and 5 miles west of the Birk City field, while Magnolia Petroleum Company's test at Spottsville was being drilled at 650 feet by E. M. Shields.

On the Daviess County side of the Green River, also in the Birk City pool, Major Oil Company's O. Harrington 1 shot a large amount of gas outside the casing wall as it was preparing to acidize. It is believed from the Jackson sand at about 1700 feet, which was drilled through on the way to the McClosky. A second test may be drilled for gas on this lease following completion of O. Harrington 1 as an oil well.

Major Oil Company is the principal operator on the Daviess County side. Its Sanders Community 1 cored 16 feet of excellent McClosky, cemented casing and was preparing to drill in with cable tools at last report. Dr. T. B. Sanders 1, nearby, was drilling at 300 feet after spudding in last week; H. Nelson 1, offsetting O. Greer 1, which was the first completion on the Daviess County side, was drilling at 1400 feet, and Hagan 1 was preparing to drill under surface pipe.

The 70-acre G. Morrison lease in the Birk City area on the Daviess County side will be drilled within 2 weeks by Major Oil Company. A gas well was drilled by Owensboro interests in 1928 on this lease, which was bottomed at 1400 feet. An additional 500 feet of drilling would probably have opened the Kentucky McClosky play, which was deferred until April of this year.

Other Daviess County operations were W. A. Post's Calhoun 1, near the Hambleton ferry, coring at 1940 feet, and A. C. R. Drilling Company's J. W. Duncan 1, drilling at 900 feet.

Daviess County oil production in June totaled 31,953.96 barrels, Commissioner of Revenue J. W. Martin reported. Producers Pipe Line Company handled 17,240.87 barrels, Ohio Pipe Line Company 11,676.11 barrels, and Fordsville Gathering Lines 3,036.98 barrels. Total production was valued at $43,426.75, on which a state tax of $302.77 was paid.

Indiana

Attracting Indiana oil interest was Carter Oil Company's C. Graulich, Section 4-7s-14w, Black Township, Posey County, which was drilling at 4655 feet in a black shale formation which is believed to overlie the Devonian, object of the test. The well is approximately 500 feet deeper than any other well drilled in the state.

In the same county, Sun Oil Company's Ed Miller 1, Section 1-7s-12w, Marrs Township, was shot last week and was cleaning out for a production test at last report. It is the company's second test on its block of Marrs Township leases, and a third will be drilled upon its completion. In Point Township, Sun Oil Company's W. W. Gray 1, Section 29-8s-14w, was drilling at 2330 feet, about 300 feet from the McClosky level, which is its destination. Continental Oil Company has obtained a large block of leases in northern Posey County.

New York-Pennsylvania

In the New York-Pennsylvania Oriskany gas fields, two wildcat operations were completed as dry holes; John Becker's Riley Bros. 1, in Willing Township, Allegany County, New York, was abandoned when the 4911-foot hole

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filled up with salt water. A similar fate befell Cunningham Natural Gas Company's Thomas Hart Estate 1, Oswayo Township, Potter County, Pennsylvania, which was bottomed at 4889 feet.

Completions in Eastern States gained in Ohio and West Virginia, remained constant in Pennsylvania and dropped in Kentucky, but the change in each case was small. Ohio increased 1 to 24, the week's lot including 5 oil wells averaging 20 barrels daily initial production, 8 gas wells, and 11 dry holes. West Virginia showed a similar increase to 12, the past week's group including a 10-barrel oil well, 9 gas wells and 2 dry holes. Pennsylvania operations stayed constant at 2, being divided between a small oil and a small gas well. Kentucky dropped from 21 to 20, which included 13 oil wells averaging 225 barrels initial daily production, 3 gas wells, and 4 dry holes.

EASTERN FIELDS
Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
Ashland County—		
Harmon, Emerick 1	¶.35	3031
J. L. Stover Co., Boffenmyer 1	*	517
Athens County—		
Milhoon, J. Cunningham 4	¶.15	915
Weimer & Ross, Ackley 3	*	400
D. T. Orndoff, Harrison 2	*	1604
Belmont County—		
Barnsville Dev. Co., Carpenter 1	¶.50	1375
Guernsey County—		
Cambridge Glass Co., Bichard 1	¶.10	1102
Geo. Kernodle, Lewis 1	¶	1393
Harrison County—		
Geo. Jewell, Miller 1	*	1297
Knox County—		
Pure, Blue 2	75	3123
Licking County—		
Kundtz-Hulse et al, Billman 2	15	3107
Settles et al, Robinson 1	1	756
Wehrle Gas Co., Osborn 1	*	830
Ohio F. G. Co., Shartle 1	*	2807
Lorain County—		
Wm. Dempsey, Jones 1	*	2700
Meigs County—		
Fugate, Diehl 2	¶.20	1017
Powell, Powell 1	*	606
Monroe County—		
Hogue & Decker, Hines 1	*	2105
Muskingum County—		
Atha Oil Co., Dailey 8	5	3193
Noble County—		
Barnsville Dev. Co., Flood 1	¶.10	1510
Washington County—		
E. C. Pickens, Crago 1	5	1299
Hill Oil Co., Weddle 9	¶	1402
Ripley et al, Ripley 46	*	271
Allison, C. Hayes 1	*	931

KENTUCKY

Butler County—		
Evans et al, Brown 1	10	510
Daviess County—		
Globe Oil Co. et al, James 1	380	1874
McDonough & Co., Coomes 1	*	888
Kentucky Nat. Gas Co., Franey & Bumpers 1	*	....
Floyd County—		
Virginia G. & O. Co., Park 3	20	1451
Inland Gas Co., Layne 200	15	1604
Spradlin et al, J. Damron 1	3	1517
Meade & Stevens, Webb 1	¶.70	3241
Grayson County—		
Smith et al, Porter 2	*	381
Henderson County—		
Mecca Oil Co., Wilson 5	20	700
J. W. Wilson 6	10	699
Carter, Mausey 1	2400	1918
Lee County—		
Virginian G. & O. Co., Moore 7	¶	....
McLean County—		
Sunflower O. & G. Corp., Shockley Bros. 7	15	1300
Martin County—		
Warfield Gas Co., J. Newberry 4772	¶.29	2802
Ohio County—		
Lewis & Lang, Cambron 7	15	943
Teller et al, Whitehouse 17	10	....
Hardie et al, Roach 1	10	597
Western Kentucky Pet. Co., Elmore 38	10	659
Fordsville Oil Co., Smith 5	*	498

WEST VIRGINIA

Cabel County—		
Kentucky-W. Va. Gas Co., Farley 2	¶.05	3155
Gilmer County—		
Pittsburgh & W. Va. Gas Co., Simmons 1	¶.49	1746
McCall Drilling Co., Fling 1	¶.11	2150
Harrison County—		
Hope Nat. Gas Co., Frances 1	*	3006
Kanawha County—		
Pure, Williams Coal Co. 287	10	3265
South Penn Oil Co., Newhouse 5	¶14.25	5074
Lincoln County—		
A. F. Black, Jeffrey 1	¶.30	3487
Monongalia County—		
Ira Donley, Miller 2	¶.10	2370
Pleasants County—		
W. F. Carmichael, Wells 1	*	830
Ritchie County—		
Buck Run Oil Co., Brunner 1	¶	1640
Roane County—		
Massey & Jarvis, Surface 2	¶.20	1290
Wetzel County—		
Hazlett Bros. & Conley, Mason 2	¶.40	558

INDIANA

Greene County—		
Frank Damron, Gramelspacker 1	*	928
Sullinvan County—		
A. S. Reed, Ogle 1	¶2.00	821

PENNSYLVANIA

Greene County—		
Equitable Gas Co., Allman 1	¶.10	2756
Washington County—		
Coulter & Duncan, Dennis 1	1	1880
Bradford District		
H. E. Camp Estate, Lawton	4	....
Brink & Brink, 268 Bing	1	....
Quinlan Bros., Fee	5	....
Alice Freeman et al, M. Wixon & Co.	2	....
Forest Oil Corp., 2 wells	2	....
Niagara Oil Corp., 6 wells	6	....
Forest Petroleum Corp.	1	....
Bradford Transit Co., 11 wells	11	....
Bradford: Water (Pressure) Wells		
Victory Oil Co., Wright	...	....
Hardwick, Rice & Tuohy, Fisher	...	....
N. V. V. Franchot, Mgr. Trustee, Rounds	...	....
Niagara Oil Corp.	...	....
Butler-Armstrong District		
R. R. Shakley et al, B. W. Christley	15	....
Evans & Co., O. K. Waldron	*	....
Middle District		
Lamberton Nat'l. Bank, James Bleakley	½	....
A. J. DeWoody, Jennings	1	....
Rice, Harper, et al, Mary J. Richey	4	....
W. E. Fertig, Kehr	2	....
Fryburg Motor Co., Deets	1	....
Middle District: Water (Pressure) Well		
Second Nat'l Bank of Titusville, Splane & Co.	...	....
New York-Pennsylvania: Gas Field		
Empire Producing Co., Dan Clark	¶	....

NEW YORK

Allegany County—		
John Becker, Riley Bros. 1	*	4911

*Failures; †Junked; ¶Million cu. ft. gas.

Book traces history of petroleum industry

"Petroleum Comes of Age," an interesting 227-page book by Albert A. Lawrence, professor of general studies, United States Coast Guard Academy, recently was published by Scott-Rice Company, Tulsa, Oklahoma, and now is ready for general distribution. The book grew out of the celebration held in Cuba, New York, in July, 1927, and commemorating the tercentenary of the discovery of oil in America. A running history of petroleum is chronicled by the author. The title of chapters follow:

The Oil Called a Touronton; Seneca Oil at Cuba; Surface Indications Before 1850; Slow Progress in Northwestern Pennsylvania; The Drive for Cheaper Illumination; The Seneca Oil Company; "You've Struck Oil, Sir," Flowing Wells, Flitting Profits; The First Real Oil Boom; General Movement into the Hills; The Bradford Era; Production Progress; Changing Technique in Oil Transport; Pipe Lines and Pipe Dreams; Refinements in Refining; "Base and Common Uses"; The Law and Lawlessness; Memorial Sketch of John D. Rockefeller.

New Mexico Fields

Wells without connections will slacken drilling work. August allowable advanced by state to 107,000 barrels.

Hobbs, N. M.—The Vacuum field, leading drilling center in Lea County, furnished four of the seven new tests authorized for the county the past week. Curtailment of projected development of the former area appeared probable the past week when one of the largest crude purchasers reduced its nominations.

The shrinkage in the market outlet for the oil produced in the Vacuum field followed the advance of the state's total allowable from 101,600 barrels to 107,000 barrels daily for August. This boost was assigned to Lea and Eddy counties, and resulted in the top allowable per well being advanced from 55 barrels to 58 barrels daily. The Vacuum field was credited with 43 completions on the August 1 proration schedule. All wells were assigned the top allowable, although several are not capable of producing their quota. The production is handled by The Texas-New Mexico Pipe Line Company for the account of the various purchasers. Magnolia Petroleum Company, with 18 wells on production, was deprived of a market for some of its wells, and will divert the allowable to its 80,000-barrel tank in the field until other arrangements can be made. This tank contains 34,178 barrels of oil accumulated before the pipe line outlet was given the field.

The Texas Company added two natural flowing wells in the most densely drilled section of the field. Its State 4-O flowed 71 barrels the first hour and averaged 54 barrels the next two hours from lime at 4670-4710 feet, and State 5-O increased from 49 barrels the first hour to 54 barrels the fourth hour from lime at 4660-4625 feet. Derrick has been erected for the company's State 3-Q, C NW SE 25-17s-34e. The Texas Company's State 2-D, west outpost, swabbed 32 barrels fluid, with trace of water, after cleaning out following nitro shot at 4860 feet.

Mike Delaney, Dallas contractor, has entered the Vacuum field as an operator and has rigged up for State-Republic 1, C SE NW 30-17s-35e. Republic Production Company assigned one-half interest in the above 80-acre lease to Delaney in return for the drilling of two free wells. Geo. F. Getty Inc.'s State 3-F, C NW NW 36-17s-34e, is a new operation. Magnolia Petroleum Company completed State-Bridges 12, C SE SE 26-17s-34e, flowing 462 barrels natural at 4725 feet, and skidded the company-manned rotary one location to the west to drill State-Bridges 15.

Initial rating of 287 barrels was established by Magnolia Petroleum Company's Corrigan 1, C SW SE 32-21s-37e, from sandy-lime at 3759 feet. It is north of the dividing line between the Hardy and Penrose areas. Rig has been skidded one location east for Corrigan 2. Two State Oil Company et al's L. G. Hill-Gulf 1-B, C Lot 3, Section 5-21s-37e, is a new project for the North Hardy area. Gulf Oil Corporation farmed out the drilling site.

Warren L. Todd et al's Lemon 1, southwestern Lea County wildcat, was drilling in anhydrite at 3990 feet, with the Delaware as its objective. It was abandoned at 3752 feet in 1936 without encountering water.

NEW MEXICO
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Eddy County—		
Premier Pet. Corp., Maddren 1-B, nw sw sw 27-17s-30e	325	3265
Lea County (Cooper)—		
Shell, R. Whitten 1, c s½ se ne 33-23s-36e	600	3625
Lea County (Eunice)—		
Gulf, State-Ramsey 3, c sw se 35-21s-36e	350	3810
Lea County (Hardy)—		
Magnolia, H. Corrigan 1, c sw se 33-21s-37e	287	3759
Stanolind, E. C. Hill 3-A, lot 14, 6-21s-37e	200	3795
Two States Oil Co.-Kaseman Est., L. G. Hill-Gulf 1-A, c sw sw 31-20s-38e	500	3790
Lea County (Langlie)—		
Culbertson & Irwin, Inc.-Nysenwander, Liberty Roy. Co. 3, c n½ nw sw 3-25s-37e	168	3468
Lea County (Vacuum)—		
Magnolia, State-Bridges 11, c se nw 25-17s-34e	360	4720
State-Bridges 12, c se se 26-17s-34e	462	4725
Texas Co., State 4-O, c ne se 36-17s-34e	1440	4710
State 5-O, c se nw 36-17s-34e	1225	4725

*Failures; †Junked; ‡Million cu. ft. gas.

North Dakota's deepest drilling below 9900 feet

Ray, N.D.—Standard Oil Company of California's Nels Kamp 1, wildcat on Section 3-154n-96w, Williams County, northwest North Dakota, was making good progress at 9900 feet. The well, first deep test to be undertaken in the history of the state, has passed through the Madison lime and may go to the Ordovician.

A seismograph crew engaged in a survey for the California company is working north from Bismarck, after having completed work in the Bismarck-Mandan area. Between Williston and Ray, a crew headed by R. C. Daniel has started work for Carter Oil Company.

Skinner publishes petroleum yearbook 1938

The 1938 issue of "Oil & Petroleum Year Book," compiled by Walter E. Skinner (which has been published annually in May for the last 29 years), was published on May 31, 1938.

The book appears at an opportune moment, as with the great expansion that has taken place in the oil industry during recent years and the international character it has assumed, an up-to-date, reliable reference book is indispensable to everyone connected with or interested in this important industry.

The book covers 536 pages and gives complete and up-to-date particulars concerning 774 companies engaged in producing, carrying and marketing oil, financing oil development, or directly associated in any way with the oil industry in all parts of the world. During the past two years particulars of over 200 companies not previously given have been added.

Lists are given of the officials connected with the companies and comprise 2733 directors, 365 secretaries and 272 consulting engineers, managers, agents, etc., their names and addresses and company connections.

The particulars of each company include the directors and other officials, date established, location of property, or description of business, purchase consideration, oil production, capacity of refineries, capital, dividends and financial position as disclosed by latest accounts.

Other useful features of the book are the statistical tables showing the world's production of crude petroleum for the nine years ended December, 1937, the monthly production for 13 months ended April 30, 1938, of the principal British oil companies, list of 724 trade names of petroleum products marketed by the various companies and a glossary of 136 technical terms and words peculiar to the oil industry. The Buyers Guide is another useful feature comprising 224 headings of Oilfield Refinery and Equipment.

The book is published by Walter E. Skinner, 15 Dowgate Hill, Cannon Street, London, E. C. 4. Price 10s. net, or post free (abroad) 11s.

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Rocky Mountain Fields

Largest second Minnelusa sand well extends Leo. Honolulu testing Embar lime in Waugh Dome project.

Casper, Wyo.—Extension of the Leo pool of the Lance Creek field, in Niobrara County, eastern Wyoming, a half mile south was proved this week by completion of Minnelusa Oil Corporation's H & M 1, NW NE NE 8-35n-65w, as the largest producer to date from the second sand of the Minnelusa series in the field. The well is making 112 barrels of oil per hour through tubing under pressure of 1300 pounds from the second break in the Leo sand at 5515-43 feet.

The well will start an immediate revival of drilling in the field, its location on the southeastern edge calling for 4 immediate offsets, the north to be drilled by Ohio Oil Company, the east by Continental Oil Company, the south by Minnelusa Oil Corporation and the west by J. E. Manning interests. Location has already been spotted for the Ohio and Continental wells. Ohio Oil Company will drill Elizabeth Lamb-Account 2, 11, in SW SE SE 5-35n-65w, while Continental's Tom Bell 13 is in SE NE SE 33-36n-65w.

In the Big Medicine Bow field, Carbon County, Ohio Oil Company and The California Company's joint deep Tensleep test well, Wm. Kyle 3, SW NE 26-21n-79w, is drilling at 6630 feet in the Chugwater red beds, topped at 5983 feet.

Sinclair-Wyoming Oil Company's deep Tensleep test in the Mahoney Dome field, Carbon County, Wyoming, got underway this week. The well is shut down, waiting on cement to set around the 13⅝-inch surface casing set in hole at 394 feet.

General Petroleum Corporation is moving in rotary equipment and getting ready to start drilling on its second well in the Cole Creek field, Natrona County, Wyoming, State 1, NE NW SE 16-35n-77w, a mile north of the discovery well. Rotary is being moved in from the discovery well, Government 1, which will also furnish crude for drilling fuel in the State well.

A water flow was encountered at around 210 feet in Italo Petroleum Corporation's northeast extension test of the Hamilton Dome field, in Hot Springs County, north central Wyoming, Skelton-Government 1, SW SE NE 13-44n-98w. Operators are running 20-inch casing string to be cemented at 215 feet to shut off the flow and enable drilling to continue.

In the Waugh Dome field, Hot Springs County, Honolulu Oil Corporation's Government 1, NE SE NE 12-44n-97w, is making a production test of the Embar lime at 3138 feet. Hole bottoms in the Tensleep formation at 4100 feet.

In the Little Polecat gas field, Park County, northwestern Wyoming, Ohio Oil Company's Trans-Ark 1, CSL SW SW 30-57n-98w, topped the Sundance formation at 5683 feet in a hard tight sand and is drilling ahead in formation with latest reported depth at 5760 feet. Operators have reported no oil shows.

MOUNTAIN STATES Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
Glacier County (Cut Bank Field)—		
Glacier Prod. Co., Thomas-Unit 3, cel ne sw 14-35n-5w	¶3	2782
Bonnett 3, cnw sw 4-32n-5w	126	2958
Santa Rita O&G Co., Ritchie 3, ne sw sw 5-33n-5w	55	2782
A. E. Wilkinson, Allotted 111 3, cnw sw 31-33n-5w	41	2958
Toole County (Kevin-Sunburst Field)—		
Big West Oil Co., Engle 3, se sw sw 1-35n-3w	25	1602

WYOMING

Carbon County (Quealy Dome Field)—		
California Co., Holst 13, se sw ne 13-17n-77w	40	3356
Sweetwater County (Lost Soldier Field)—		
Sinclair-Wyoming Oil Co., Lost Soldier 33, se sw sw 11-26n-90w	30	2177
Weston County (Osage Field)—		
Taylor, Dodge & Pauley 15, sw ne ne 17-46n-63w	40	315
Osage Trust Co.'s 1, se nw ne 22-46n-63w	*	1500
Howland & Seneker, 3, ne sw ne 13-46n-64w	*	1403

*Failures; †Junked; ¶Million cu. ft. gas.

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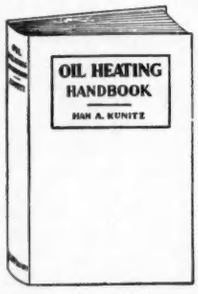

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Michigan Fields

Fourteen machines move into Overisel Township.
Diamond Springs indulging in townlot drilling.
Freeman Township boomers are using rotary rigs.

Mt. Pleasant, Mich.—Drilling operations, all machines and spudders, had jumped to 14 in the new Overisel Township, Allegan County district this week, to smash all records in Michigan for getting a drilling play up to top speed. The discovery well, W. J. Cline's Helmer 1, NE SW SE, Section 36-4n-14w, was brought into flow production July 18, with an estimated potential of 900 to 1000 barrels.

The discovery well is producing from the Traverse lime horizon at 1461 feet, 2 feet in the lime. Without pipe line facilities, the well has never been produced open for a full 24-hour period. It is now producing an average of 26 barrels an hour through a ⅜-inch choke.

Five of the 14 drilling tests in the district, including offsets and tests located from a half to 2 miles from the discovery, were slated to test the Traverse zone this week. All drilling is being done with drilling machines or spudders. The discovery well had 120 feet of 10-inch drive pipe and no other casing was run until the 6-inch producing string was set at 1460 feet. Two of the five tests now nearing pay levels set an additional string of 8-inch casing at approximately 300 feet when water sands caused a caving hole.

With the short drift string and in most cases no other casing runs to make, except the producing string, 10 to 14 days is expected to see completion from the date of moving in.

Small Spacing

A cross-road town, Diamond Springs, ½-mile east of the discovery well, is giving the State Conservation Department and several operators a headache due to the splurge of townlot drilling that has been precipitated. Five wells are now drilling on a total of 13 acres—two on less than one-acre tracts. Attempts to communize by several operators so far have not materialized.

The standard spacing pattern in Michigan for oil wells is one well to 10 acres, and with a few exceptions this has been followed out almost to the letter. The statutes provide that exceptions can be made where small lot ownership exists.

There are no majors in the Overisel play to date.

The discovery is located approximately two miles northwest of the older Monterey Township field, Allegan County, and about four miles due west of the Salem pool.

Outlet Soon

Pipe line relief for the discovery and future production was at hand this week with the Naph-Sol Refining Company of Muskegon, one of the chief buyers of Allegan crude oil, completing a 3-mile, 4-inch spur from its new 4-inch, 16-mile line to Monterey-Salem-Dorr and to Vriesland where shipments are made via railroad to Muskegon.

The new 16-mile line was placed in service July 30 marking the first pipe line outlet for the field. Previously, since early 1937, production from all Allegan fields has been moved to market (Muskegon and Grand Rapids) by truck tankers.

Commonwealth Pipeline Company has applications before the State Utilities Commission for approval of a 4- or 6-inch line from the Allegan district to Muskegon, about 45 miles. This company has been a purchaser of crude for more than a year, shipping via trucks from field gathering terminals.

Gulf Using Rotary

Of eight active tests in the new Freeman Township, Clare County, Monroe lime play, Gulf Refining Company's Van Horn 1, Section 3, east offset to the discovery well, is leading the race with 1441 feet drilled out on August 2. Rotary tools still are being used on the Gulf well, and according to present plans Lupher Drilling Company, contractors, expect to reach a 6-inch casing point at 1850 feet below the Marshall-Red sand section before standardizing. Test is now drilling the Michigan Stray sand section and averaging about 40-feet a tour.

A similar combination of rotary and cable tools will be used by Gulf for Van Horn 2, where rig was being erected this week.

Rotary for the drift and Marshall zone, operators hope, will eliminate both the long drive string necessary for cable tools and two cave and water zones above the Marshall.

Pure Oil Company used Lupher's rotary for the first 700 feet on Switzer 1, Section 27-19n-6w, Redding Township, two miles north of the discovery, and is now drilling below 1130 feet. An eight-inch casing string was run at 947 feet, but a water zone was drilled 20 feet below. Operators expected that it would be necessary to ream and reset eight-inch. The six-inch string on the discovery, drilled all the way with cable tools, was set at 1746 feet. Considerable trouble was experienced with caving hole and water in the 900 to 1300-foot section.

Ten-inch drive casing had been landed with cable tools on two other tests in the play early this week. J. S. Higelmire's Van Horn 2, south location on the discovery lease, landed 660 feet of 10-inch and Socony-Vacuum landed 676 feet on Van Horn 1, north offset to the discovery.

From 45 to 60 days completion time is expected for the field on first tests. The discovery was drilled in 52 days with cable tools. Both the Michigan Stray and Traverse limestone may cause delays due to the fact that it frequently carries gas and/or oil. Shows in both zones were recorded in the discovery.

Freeman Discovery Flowing

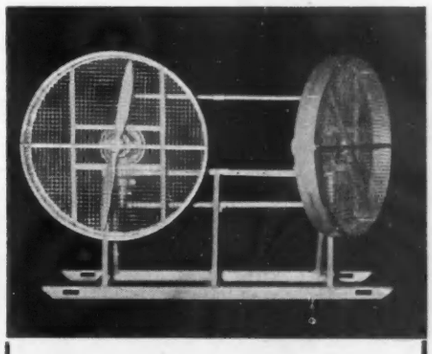
The discovery well, S. J. Higelmire's Van Horn 1, Section 3-18n-6w, was completed July 9 with an initial production of 278 barrels flowing open from 5-3/16-inch casing at a depth of 3894½ feet, 3½ feet in the Monroe lime zone. Production in the third week averaged 161 barrels per day.

Sun Oil Company continued to drill ahead slowly this week on the State B-1, Section 9-15n-1w, Jerome Township, Midland County, with operations on August 2 at 4779 feet. Company geologists reported indications that the present drilling zone is in the upper Sylvania limestone. At 4642-59 feet operators tested an oil-gas show without commercial results. The test is a wildcat approximately 3½ miles southwest of Dundee lime (3770 feet) production in Edenville Township, Midland County.

MICHIGAN Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Lentz & Miller's Grayzk 1, ne se nw 30-4n-12w	*	1598
Diamond Spring's Jones 1, se se sw 4-3n-13w	*	1620
Rex Oil Co.'s Hartman 3, ne se se 8-3n-13w	125	1635
Miller 1, nw nw ne 16-3n-13w	*	1707
G. Van Eenenaam's Miller 2, sw ne nw 16-3n-13w	*	1710
Salem Oil Co.'s Brenner 2, se nw nw 16-4n-13w	50	1615
Clare County—		
American Production's Schaeffer 1, sw ne sw 26-17n-4w	*	1345
Gladwin County—		
Robert King's Bank Saginaw 1, se se se 20-17n-2e	40	3537
E. A. Bovell's State 1, sw sw se 2-18n-1w	60	3637
Sun Oil Co.'s Henderson 1, se sw se 4-18n-1w	65	3600
Bell-Mark's Schember 1, sw sw nw 26-18n-1w	90	3608
Pollok-Sobczyk's Campbell 2, se nw se 27-18n-1w	*	3602
Kales-Grave's Bank of Vassar 1, nw ne se 27-18n-1w	45	3599
Marshall Bauman's Maier 1, ne sw nw 35-18n-1w	*	3602

*Failures; †Junked; ‡Million cu. ft. gas.



Adjustable . . .
TWIN BUG BLOWER
Sold Thru Supply Stores

These blowers are easily handled on rig floor. Once located and hooked up to steam line, they may be adjusted to blow on any part of the floor where men may be working. No tools required to change direction of blower.

Steam turbine or Electric motor driven.

GARROTT BRASS & MACHINE CO.
1718 ENNIS ST. HOUSTON, TEXAS

IMPORTANT WILDCAT TESTS

ARKANSAS

Calhoun—C. E. Murdock's Southern Kraft 1, se nw nw 17-14-13, spd and sd cur titles. **Clay**—Canadian American Oil Co.'s Smith 1, c ne nw 9-20-8, elev 375 ft, top Nacatoch 800 ft, sd 1005 ft shale. **Cleveland**—W. E. Allaun, Tr.'s Moore Est. 1, sw se nw 34-9-10, woc 10¾ in csg 170 ft. **Columbia**—J. A. Longino's Baker 1, se nw nw 13-17-20, mim. E. O. Olds' Mary Dennis 1, nw se sw 4-17-21, owdd, td 4513 ft. G. H. Vaughn & Shell's Garrett 1, c ne se 12-17-20, rur. Standard of La.'s Tina Crumpler 1, c sw nw 15-17-19, top chalk 2391 ft, set 9⅝ in csg 2408 ft, top Permian lime 7356 ft, coring 7411 ft. Harris Unit 1, c ne sw 15-17-19, dk waiting on rig. Fohs Oil Co.'s Phillips 1, nw nw sw 15-17-19, td 7424 ft, set 7 in csg 7404 ft, perforated 7380-85 ft, fsg 118 joints tubing. Atlantic Ref. Co.'s Harrington 1 (was M. Talley 1), c sw nw 14-17-20, dr 4260 ft; M. Talley 2, nw sw 14-17-20, lcn; Baker 1, se ne 14-17-20, dr 2025 ft; Baker 2, sw ne 14-17-20, lcn; Baker 3, sw nw 14-17-20, lcn; Baker 4, nw ne 14-17-20, lcn. Petroleum Finance Corp. of Texas' Alice Baker 1, c sw nw 13-17-20, dr 3075 ft; Barnett 1, c nw se 14-17-20, lcn. **Craighead**—Tenn. Ark., Inc.'s Ruby Martin 1, ne ne 35-14n-3e, dr 2295 ft. **Crittenden**—Stanley Oil Corp.'s D'Annar Hrs. 1, c 18-8n-9e, top Paleozoic 3243 ft, sd 3331 ft. **La Fayette**—Standard of La.'s Warren 1, c ne ne 18-16-22, top Nacatoch 1418 ft, top anhydrite 3279 ft, td 7254 ft Permian lime, swabbing; J. P. McKean 3, se ne se 7-16-22, td 7257 ft, set 6 in csg 7205 ft, wocs. **Little River**—J. G. Strahan's Dierks Lbr. Co. 2, sw se 21-12-28, elev 268 ft, owdd, top lime 2421 ft, sd 3030 ft. **Lonoke**—J. W. Eddington et al's Anderson 1, nw ne 7-4-9, 12-in csg 85 ft, sd 600 ft. Cabot Drlg. Co.'s Benson 1 (Cabot townsite lcn), dr 1985 ft. J. E. Russell's Gunter 1, se se 17-5s-10w, dr 1418 ft. **Miller**—F. F. Earles' General American 1, se sw 20-14-26, sd 1232 ft. Ray L. Estabrook et al's E. L. Sherman 1, sw sw 29-19-28, dr 5785 ft. **Pulaski**—Coker Oil Corp.'s M. S. Stone 1, sw ne se 36-3n-11w, 12½ in csg 108 ft. **Union**—Joe Modisett et al's Frost Lbr. Co. 1, ne ne 8-18-12, 9⅝ in csg 3307 ft, dr 4945 ft.

CALIFORNIA

Los Angeles: Castaic—Royal Land's No. 1, 8-4-17, dr 1020 ft. **La Mirada**—D. H. B. Oil's Buena Park 1, 34-3-11, grade. John McKeon's Carmenita 1, 21-3-11, dr 6435 ft. **Newhall**—National Pet. Co.'s No. 1, 27-4-16, sd 2436 ft. **Palos Verdes**—Rolling Hills' Weston 1, 27-4-14, dr 4890 ft. **San Fernando**—Tide Water Associated's Porter 1, 27-3-16, dr 2320 ft. **San Pedro**—R. T. Grady's Supuvelda 1, 14-5-14, lcn. **Orange: Costa Mesa**—A. V. Oil's No. 1, 16-6-10, so 4225 ft. **Kraemer**—Congress Kraemer 1, 36-3-9, rigging pump 3014 ft. **San Bernardino: Chino**—Southern Counties' Los Serranos 1, 22-2-8, co 425 ft. **Fresno: Clovis**—Central Valley's No. 1, 1-12-20, dr yellow sand 608 ft. **Coalinga**—Petroleum Securities' No. 88, 12-20-15, dr hard shale 5545 ft; No. 7-7F, 7-20-16, redrilling to straighten hole 2070 ft. Magnet's Fearon 2, 18-20-15, dr brown shale 3352 ft. Medford's F. C. Goetz 1, 10-20-15, dr hard gray sand 4557 ft. Standard's No. 82-13-C, 13-20-15, rur. Superior's Hight 1, 8-20-16, dr 4000 ft. Texas Co.'s Mohawk 19, 12-20-15, dr 3715 ft. Tide Water Associated's Guardian 66, 12-20-15, dr 500 ft. Universal Consolidated's Leafitt-Hintze 1, 12-20-15, dr hard gray sand oih 5220 ft. **East Coalinga**—Pure's SPL 1, 31-18-17, dr gray sand streaks shale sg 11,259 ft. **Jacalitos Hills**—Jacalitos Pet. Co.'s No. 1, 14-21-15, dr hard shale 7427 ft. Dauphin Dev. Co.'s Ragan 1, 19-21-14, rur. **Kern: Buena Vista Lake**—Ohio's KCL A8, 32-31-26, swabbing 11,186 ft; KCL F-1, 10-31-25, rur. **Devil's Den**—Gibson's Alferitz 3, 14-25-18, dr 805 ft. **Dominion**—Master Pet. Co.'s US 1, 34-26-28, grade. **Elk Hills**—Richfield's KCL-Western 1, 32-30-25, dr 2100 ft. **Fruitvale**—Texas Col's Camp-West-Lowe 1, 7-29-27, dr 7910 ft. Continental's KCL B-2, 12-29-26, dr 6603 ft. **Kern: Grapevine-Wheeler Ridge** — Petrol's Reserve-Petrol 33-5, 33-11-19, sd 4607 ft. Richfield's KCL 1, 28-11-20, dr 5582 ft. Wilshire's Tejon 34-1, 34-11-19, rig. **Kern River**—Amerada's Olcese 1, 4-29-29, dr 2815 ft. **Lerdo**—Standard's KCL 18-1, 29-28-26, dr 10,507 ft. **McFarland**—Tide Water Associated's Pond 1, 17-26-25, dr 7958 ft. Shell's KCL 83-35, 35-26-25, dr 9881 ft. **McVan**—Desert Glow's No. 3, 14-27-27, rig. Framac's Brown 3, 22-27-27, co 1355 ft. **Mt. Poso**—Federal Drilling's B. & G. Glide 3, 13-26-27, dr 1517 ft. Marcan's Glide 5, 1-27-27, dr 200 ft. **Poso Creek**—Harkness & Laws' Hunt 1, 28-27-27, foundation. Reynolds' No. 1, 30-27-27, sd 2854 ft. **Richgrove**—Dilamar's Quinn 1, 15-25-27, rigging pump 2956 ft; No. 3, 15-25-27, rig. **San Emigdio**—Shell's KCL 1-A4, 26-11-22, dr 10,101 ft. **Strand**—Continental's KCL E-1, 17-30-26, sd 8574 ft. **Union Avenue**—Richfield's Union Avenue 1, 6-30-28, rur. **Wasco-Semitropic**—Continental's KCL A-3-8, 8-27-24, dr 11,300 ft Seaboard-Assoc. KCL C-1, 26-27-24, fsh core bbl.—trying to sidetrack at 12,676 ft, td 12,778 ft. Standard's Mushrush 1, 7-27-24, dr 9027 ft; KCL 8-B-1, 17-27-24, dr hard brown shale 10,881 ft. **Kings: Tulare Lake**—Athalie Irvine's No. 1, 11-24-20, rur to deepen, 1650 ft. **Tulare: Ducor**—Nelson & Davison's Muller 1, 1-24-27, rur to deepen 378 ft. **Trico**—Caminol's A. O. G. 3, 29-24-24, co 7555 ft. **Santa Barbara: Carreaga**—Douglas-Stratton's No. 1, 8-8-33, wo 6239 ft. **Casmalia-Cat Canyon**—Standard's Los Flores L&L 1, 27-9-33, dr hard broken shale oih 6385 ft. **Coal Oil Point**—Permit 191-2, 24-4-29, sd 5510 ft. **Gaviota**—Gaviota's Hollister 1, 35-5-33, pumping salt water 3215 ft. Wilshire's Hollister 1, 35-5-33, wo 4600 ft. **Gato Ridge**—Barnsdall's Magenheimer 5, 9-8-32, dr shale 2082 ft; Tognazzini 3, sd 3800 ft. Petrol's Magenheimer 5-11, 9-8-32, dr 2201 ft. **Santa Barbara: Lompoc**—J. E. O'Donnell's Helen 1, 8-7-33, sd 3580 ft. **Los Olivos**—Continental's La Laguna 2, 25-8-31, rig. United Western's Bradley 1, 15-7-30, sd 3279 ft. **Orcutt**—Warren Deuel's Garrett 1, 12-9-34, rig. **Santa Barbara Mesa**—Anacapa Oil's Lowe 1, redrilling 2108 ft. Trans-Oceanic Oil's Morrison 1, rur to deepen 2050 ft. **San Luis Obispo: Elkhorn**—California Pet. Co.'s Job 1, 6-10-24, dr shale 2110 ft. Harry E. Lee's Definance 1, 7-32-22, dr 100 ft. **Edna**—Loma Grande's Luis 1, 28-31-13, rig. **Huasna**—Hancock's Scherer-Dickes 1, 30-12-33, dr 4970 ft. **Pismo**—Fred Roberts' Scott 1, 5-32-13, rur 4624 ft. **Ventura: Moorpark**—Darby's Cohn 1, 7-2-19, dr 4350 ft. **Ojai**—W. G. Rowe's Butcher 1, 16-4-22, wo 1710 ft. Holly Dev. Co.'s Macrate 1, 27-4-23, dr 3920 ft. **Sespe**—La Salle & Van Dissen's No. 1, 17-5-19, grade. H. A. McDonald's No. 1, 5-5-19, lcn. Charles R. McKinnis' Cosley 1, 14-4-19, dr 300 ft. Merchants' Cochrane 8, 1-4-20, dr hard shale 780 ft. **Shiells Canyon**—Texas Co.'s Shiells 135, 4-3-19, rur. **South Mountain**—Albatross' Scheiferle 1, 17-3-20, rig. Clipper's Calco 1, 17-30-20, rig. Texas Co.'s Yale Richardson 5, 13-3-21, fsg 6125 ft. **Tar Creek**—Section 20's No. 1, 20-5-19, dr sand and shale oih 1805 ft. **Timber Canyon**—Hardison & Temple's No. 1, 22-4-21, dr sand, oih, 627 ft. J. W. Martin's Arnett 1, 15-4-21, dr 1230 ft. Stallings, Senter & Ahlburg's Stallings 1, 24-4-21, rigging pump 1445 ft. **Ventura**—Ventura Drilling Co.'s No. 1, 10-3-23, dr 150 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
bs—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

ILLINOIS

Bond—Farrely Kyle 1, sw nw nw 28-4n-4w, drlg 995 ft. Leavitt Briggs 1, sw se ne 24-4n-2w, hfw, sd 1228 ft. Huppard's Dresser 1, sw ne nw 21-6n-4w, sd 1525 ft. Elnor's Dilman 1, sw se sw 13-6n-2w, spd 67 ft. **Cass**—Duval's Bowen 1, nwc se 30-17n-12w, sd 530 ft. **Champaign**—Nedra's Block 1, sec nw 33-18n-10e, drlg 490 ft. **Clay**—Gordon's Cannon 1, c nw se se 32-3n-5e, swabbing and testing. **Clinton**—Schlafly's Brinkman 1, nec nw 31-1n-2w, hfw, sd 1440 ft. Phelps' Dodillet 1, se nw sw 25-1n-1w, rng 6 in to 1210 ft. Hausman's Nothaus 1, nec 23-2n-2w, drlg 1475 ft. Sappington's Hilgemann 1, se ne nw 22-3n-3w, sd 872 ft. M. & K.'s Kesner 1, nec 10-3n-2w, lcn. Redwing's Orrell 1, se sw nw 27-3n-2w, lcn. Taylor's Meyers 1, c nw sw se 5-3n-1w, drk. **Coles**—Kingwood's Tomberlin 1, sw se se 21-11n-10e, drlg 550 ft. **Crawford**—Kesl's Warner 1, nec 23-4n-11w, drlg 1560 ft. **Dewitt**—Smith's Hill 1, sw nw nw 8-21n-1e, sd 150 ft. **Edgar**—Meyer's Brinkerhoff 1-A, 40 ft w of c se se 26-13n-13w, driving 10 in at 90 ft. **Edwards**—Leach's Lee 1, sw ne se 11-1s-10e, small show oil 3370 ft. **Effingham**—Schroeder's Smith 1, c ne ne ne 30-7n-3e, bldg tanks. Jarvis' Walker 1, c ne se nw 31-7n-3e, drlg 1530 ft. **Fayette**—Finley's Torbeck 1, c nw sw nw 16-5n-2e, drlg 1435 ft. Hayes' Thull 1, c se sw se 14-8n-1e, drlg 320 ft. Iroquois' Wills 1, ne sw se 6-8n-3e, drlg 75 ft. McBride's Stokes "B" 1, c sec sw 19-8n-3e, drlg 1495 ft. **Franklin**—Amerada's Ziegler 1, sw ne nw 14-7s-1e. mirt. **Gallatin**—Arab's Doerner 1, sec 12-7s-8e, drlg 1275 ft. Bailey's Logan 1, se ne ne 21-8s-8e, sd 815 ft. **Hamilton**—Carpenter's Clark "A" 1, nwc sw 32-3s-5e, coring 3305 ft. **Jasper**—Continental's Eveland 1, nwc 33-7n-9e, drlg 1075 ft. **Jefferson**—Gill's Smithey 1, cw½ nw ne ne 6-1s-1e, bailing salt wtr 1755 ft. Crosley's Fitzgerald 1, nec 6-1s-1e, mirt. Nollem's Kelley 1, ne nw ne 25-4s-2e, acidizing 3007 ft. Dee's Hamilton 2-A, swc nw 20-4s-3e, woc 1800 ft. **Johnson**—Elzie's Boner 1, c sw ne 30-11s-3e, drlg 85 ft. **Macon**—Sun's Powers 1, sec ne 30-17n-2e, oil shows 2565 ft, drlg 2837 ft. **Macoupin**—Ganey's Drew 1, nwc ne 33-9n-6w, drlg 575 ft. Spence's Fee 1, se sw sw 13-8n-9w, drlg 775 ft. **Madison**—Spivey's Storms 1, se sw ne 15-6n-8w, attempting water shut off 1337 ft. **Marion**—Harris' Welch 1, se se se nw 2-1n-1e, coring 1571 ft. Cole's Kuester 1, e½ e½ sw sw 5-1n-1e, sd 807 ft. Thompson's Wright 1, c ne se ne 8-1n-1e, sd 618 ft. Parshall's Shook 1, c ne se ne 9-1n-1e, sd 1930 ft. William's McCray 1, nwc se 24-1n-1e, sd 2200 ft. Lane's Bailey 1, c nw nw 30-1n-1e, drlg 1650 ft. Mammoth's Buchannon 1, c sw se sw 9-1n-2e, drlg 1675 ft. Dalton's Dalton 1, nw se ne 19-1n-3e, drlg 1865 ft. Dalton's Clifton 1, ne sw sw 15-1n-4e, sd 2682 ft. Morrison's Rittinghouse 1, sw ne se 19-2n-1e, sd 1600 ft. Copp's Wesner 1, sec nw 24-2n-1e, mach. Pyramid's Roddy 1, sec sw 20-2n-3e, sd 2207 ft. Coyer's Mulvaney 1, se ne se 6-2n-4e, drlg 325 ft. Marion's Wilson 1, nec se 18-3n-3e, drlg 2160 ft. **Menrod**—Scroggin's Fee 1, c sw sw 24-19n-5w, sd 1570 ft. **Montgomery**—Hammer's Jones 1, c nw¼ 22-7n-3w, sd 305 ft. Meyer's Klekamp 1, sw se 29-8n-5w, sd 885 ft. **Morgan**—Waverly's Doe 1, c e½ e½ e½ 33-14n-8w, sd 850 ft. Alexander's Gray 1, e½ ne ne 36-15n-9w, lcn. **Piatt**—Pray's Baker 1, sw ne ne 17-18n-6e, sd 2005 ft. **Pope**—Whitlock's Anthis 1, nwc ne 12-11s-5e, sd 1745 ft. **Pulaski**—Kahle's Harvick 1, swc 23-14s-3e, drlg 2889 ft. **Randolph**—Cain's Smiley 1, sec ne 31-4s-5w, fsg 560 ft. Schlosberg's Hayer 1, se nw sw 4-5s-6w (water well) drlg 210 ft. **Sagamon**—Williams' King 1, nw se se 24-15n-7w, sw at 1385 ft, mirt. **Saline**—Carpenter's Sloan 1, sec sw 32-7s-6e, drk. Siegel's Cholsser 1, ne nw nw 5-8s-7e, sd 100 ft. **Shelby**—Consumer's Harrison-Ward 1, ne se ne 17-9n-9e, ur 980 ft. Jolly's Jenkins 1, sec se 26-10n-4e, sd 1000 ft. Lewis' Hopkins 1, c sec 32-10n-4e, drlg 50 ft. Borah's Patten 1, c ne ne nw 25-11n-2e, drlg 1805 ft. Producer's Boys 1, c nw ne nw 27-12n-3e, drlg 250 ft. **St. Clair**—Group's Buss 1, c ne se 13-2s-6w, drlg 710 ft. Neil's Rheinhart 1, app e½ se ne 20-2n-6w, drlg 340 ft. **Washington**—Salvage's Reinkensmeyer 1, sec nw 11-1s-2w, sd 1030 ft. Bitterman's Bank 1, se nw sw 16-3s-2w, drk. Thompson's Musial 1, se sw nw 19-3s-1w, drk. **Wayne**—Sloan's Walker 1, c nwc 16-3s-9e, sd 1970 ft. Gordon's Fitch 1, c w½ sw nw 11-1n-8e, lcn. Lake's Hazel 1, c ne nw 22-2n-9e, drk. **Williamson**—Gelo. Synd.'s Scott 1, sw se sw 4-10s-2e, woc 1235 ft.

KANSAS

Barton—Continental's Pichner 1, se nw 23-16-11w, ru. Gardner's Krug 1, sw se 16-16-13w, drlg 2985 ft. Carlock's Demel 1, ne nw 30-17-13w, br. **Butler**—Hick's Heymon 1, nw sw nw 33-23-5e, drlg 2410 ft. Simpson's Equitable Life Ins. 1, sw 15-25-3e, drlg 2175 ft. Stenibuchel's Fox 1, nw se ne 25-26-3e, drlg 3199 ft. Phillips' Hanshaw 1, nec se 32-27-3e, lcn. Nat'l Ref.'s Wentz 1, se ne nw 7-27-6e, co 2810 ft. Seidhoff's Eckel 1, se 17-27-7e, rig. Solomon's Sawyer 1, sw nw sw 2-28-7e, spd. Pryor's Lietzke 1, nw sw nw 24-28-7e, drlg 50 ft. Bowland's Frankson 1, se sw 2-29-6e, drlg 50 ft. **Cowley**—McKnab's O'Neal 1, nw nw se 27-32-3e, drlg 50 ft. **Dickinson**—Frnak's Huffman 1, nw sw 11-13-1e, sd 1177 ft. **Ellis**—Davis' Smith 1, sw nw ne 11-12-16w, drlg 2640 ft. **Geary**—Fowler's Aye 1, nw sw nw 10-12-8e, ru mach. **Greenwood**—Nichols' Central Life Ins. 1, se sw 35-25-12e, ru mach. Fullerton's Bates 1, ne sw se 32-26-11e, ru. Dunlap's Mortgage 1, nw sw 4-28-10e, drlg 100 ft. **Jackson**—Haverback's Marble Savings Bank 1, c ne ne 26-9-14e, drlg 2765 ft. **Kingman**—Bunte's Shepard 1, sec 10-27-10w, drlg 4015 ft. **Marion**—Johnson's Miltz 1, swc 24-17-4e, co

1700 ft. Harwood's Kaufman 1, nwc se 27-17-4e, drlg 620 ft. **McPher**—Marylyn's Dixon 1, nw ne nw 7-19-2w, drlg 1275 ft. **Meade**—Pacific's Rexford 1, ne se sw 8-30-29w, sd 935 ft. Cragin's Adams 1, nw nw se 22-34-30w, sd 200 ft rur. **Ness**—Sinclair-Prairie's McKinley "A" 1, sw nw 26-18-26w, pits. **Norton**—Vickers' Bozarth 1, c swc 15-5-24w, pits. **Ottawa**—Babcock's Copeman 1, c nw ne 18-10-2w, drlg 1785 ft. **Pottawatomie**—Turner's Unshide 1, c ne nw 32-8-9e, ru. **Reno**—Carter's Hogan 8, nw se sw 19-24-4w, drlg 540 ft. **Rice**—Duwe's Remmert 1, sw nw 3-18-9w, drlg 2110 ft. Cities' Frees 1, c sl nw 20-18-9w, lcn. Cities' Flora 1, sw ne 12-19-10w, brr. **Riley**—Coronado's Parks 1, sec 16-10-8e, drlg 1915 ft. **Rooks**—Power's Hammond 1, c sw 34-6-19w, drlg. 2865 ft. Producers' Ham 1, sw nw 25-7-19w, drlg 1850 ft. Haines' Dorr 1, se sw 13-9-16w, drlg 2855 ft. Hall's Kruse 1, se ne 3-10-16w, drlg 3195 ft. **Russell**—Stearns' Stielow 1, nwc 32-11-14w, drlg 2795 ft. Coralena's Hefferman 1, ne se sw 34-14-13w, pulled 6 in at 3026 ft. Hinkle's Kaufman 1, se nw 10-15-12w, drlg 1625 ft. **Sedgwick**—Hutton's Phillips 1, nw ne se 14-26-1w, rig. Hudson's Fulton 1, ne se 35-28-1e, sd 2283 ft. Crowe's Murphy 1, sw se 34-29-1w, rig. **Shawnee**—Edwards' Detrich 1, c nw se 21-14s-15e, sd 1130 ft. **Stafford**—Cities' Smith "B" 1, c wl sw 16-21-11w, rust at 3407 ft. Boons' Schilling 1, nw ne 20-21-12w, cellar. Atlantic's Wise 1, nwc 13-24-14w, rust at 3592 ft. Rowley's Sittner 1, se ne 35-21-12w, brr. **Woodson**—Natan's Ellis 1, nwc se 35-25-14e, drlg 275 ft.

SOUTH LOUISIANA

Acadia—Atlantic Ref.'s Klumpp 1, ne of Tepetate, 12-7s-2w, lcn. **Calcasieu**—Republic's Sabine Tram 1, nw of Starks, 25-8s-14w, abn 9540 ft. Sun's Lutcher-Moore 2, near Lunita, 12-8s-13w, new lcn. Union Sulphur's Drew Training School 1, s of Edgerly, 4-10s-11w, cmt caving formation with 500 sacks, td 8807 ft. **Cameron**—Humble's K. Hanszen 2, Chalkley area, 9-12s-6w, dr shale 9782 ft. Federal Royalty's State C. Lake 1, Calcasieu Lake area, 1-13w-9w, new lcn. Pure's Calcasieu National Bank 1, n of Mallard Bay, 18-12s-4w, abn 8293 ft. Union Sulphur's Miama Corp. 3, Willow Lake area, 33-12s-8w, ru. **Iberia**—Texas Co.'s State 2-B, Vermilion Bay, 16s-5e, abn 9667 ft. **Jefferson Davis**—Continental's J. Sturdivant 1, South Roanoke, 36-10s-4w, dr sticky shale 10,750 ft. Union Sulphur's Liggett 1, Fenton area, 36-7s-5w, dr hard shale 8020 ft. Julius Szodomka's Carrol 1, 125-12s-11e, dr shale 5230 ft. **Lafourche**—Sun's Dibert, Starks and Brown 1, Chacahoula dome, 70-15s-15e, dr shale and lime 6770 ft. Texas Co.'s La Terre Co. 1, Golden Meadows area, 1-20s-21e, dr hard shale streaks 8530 ft, no oil shows reported. **Orleans**—W. T. Burton's State 1, in Lake Pontchartrain, 10s-13e, dr sand 6600 ft; same operator's Faubourgde Mantelu zin B-2, 11s-13e, dr 125 ft. **St. Landry**—Herton Oil Co.'s Thistlewaite Lbr. Co. 1, 60-4s-4e, lcn. **St. James**—Continental's Colonial Sugars 1, Convent 46-12s-5e, dr hard shale 7747 ft; same operator's Realty Operators 1, Convent, 17-12s-5e, comp. as gas and distillate well, td 7499 ft. **St. John the Baptiste**—Shell's Godchaux Sugars 1, La Place, 97-11s-7e, dr 8170 ft, no shows. **St. Martin**—Shell's Jeanerett Lbr. Co. 1, West Lake Verrett, 14-14s-12e, dr hard sand 10,490 ft, no shows, fish recovered. Texas Co.'s St. Martin Land 11, Henderson, 21-8s-7e, dr hard shale 8415 ft, recovered shale showing oil; same operator's State 6, Lake Mongouloui, in Lake Mongouloui, 10-10s-9e, dr hard shale 4835 ft. **St. Tammany**—O. B. Phillips' A. J. Blanche 1, 28-6s-10e, abn sticky shale 3118 ft; same operator's Furhman 1, 28-6s-10e, lcn abn. **Terrebonne**—Barnsdall's Barrow Estate 1, n of Bourg, 41-17s-18e, abn 10,785 ft. Fohs' State Bay Baptiste 1, se of Lirette, 41-19s-19e, testing sands around 9000 ft, some gas on drill stem test. Shell's Peters 1, se of Houma, 73-18s-13e, dr sand 9130 ft; same operator's Realty Operators C-1, Minor area, 10-18s-16e, dr shale 10,845 ft. Texas Co.'s Sate Coon Point 1, Caillou Bay, 22s-14e, dr sandy shale 4353 ft. **Vernon**—W. T. Burton's Gulf Lbr. Co. 1, Fullerton area, 15-1n-6w, preparing to abandon at 7202 ft.

NORTH LOUISIANA

Bienville—DeSoto O. & G. Co.'s Wm. Ashley 3, c nw se 15-16n-10w, Mrs. B. A. Fleming 1, nw nw 18-16n-9w, dr 3935 ft. **Bossier**—Lloyd & Sloan's B. A. Sherrill 1, se se 12-19n-12w, sd 785 ft. **Caddo**—Oils Inc.'s A. Cazaux 1, sw sw 16-16n-13w, 10-in csg 300 ft, dr 2230 ft. Hutchinson Bros.' Fee 2, 3-15n-12w, td 1911 ft, completed flowing 607,000 cubic feet gas daily, 6-in csg set 1908 ft. J. Thomas Driscoll Inc.'s Woolworth 1, se se 19-18-14, lcn. **Caldwell**—Oakes et al's Kyles 1, sw ne 18-11n-3e, woc 470 ft. **Catahoula**—G. E. Foster et al's W. S. Peck 1, c s½ 39-10n-8e, sd 620 ft. **Claiborne**—E. T. Oakes et al's Kilgore 1, ne se 28-21n-5w, elev 288 ft, 5¾-in csg 5290 ft. logged saturated lime 5297-5305 ft, and 5307-12 ft, swabbing, td 5357 ft. Union Prod. Co. et al's Rufus Sims A-1, sw sw 29-20n-5w, cored sand so 5612 ft (Travis Peak), td 6050 ft, pb 5630 ft, set 9⅝-in csg 5573 ft. J. N. Buchanan's Miller Est. 1, ne sw 11-20n-8w, rur. **DeSoto**—S. P. Taylor's Barnhart 1, ne se 20-14n-12w, mim. M. L. Stephens' M. E. Garrett 1, nw ne 10-11n-16w, lcn abd. La. Seaboard's Lawrence 1, sw ne 36-12n-14w, elev 332 ft, tested so 2062 ft, tested dry 2822 ft, arr deepen. G. H. Collins et al's Joyner 2, sw ne 28-11n-12w, woc 7-in csg 2892 ft, td 2925 ft. **Grant**—C. L. Thompson et al's Woodward 1, ne sw 10-6n-3w, top Wilcox 2867 ft, install heavier rig, td 4527 ft, sandy shale. C. R. Bowers et al's Harrison 1, ne sw 21-8n-5w, no report. **Madison**—Continental Oil Co.'s Singer Mfg. Co. 1, n½ ne nw 3-15n-11e, dr 1850 ft. **Natchitoches**—Joe E. Popkins' Feavy-Wilson 1, nw nw 36-7n-9w, sd 300 ft. W. T. Ryan et al's Lambert 1, nw nw 4-8n-9w, sd 4189 ft. Raines Bros.' Allen Plantation 1, ne sw 22-10n-9w, fsg 1250 ft. **Rapides**—J. J. Farrell's Certner 1, nw se 16-4n-1e, dk & mir. E. F. Kalb et al's Lee Lbr. Co. 1, nw sw 9-5n-3e, spudded. **Red River**—Glassell & Whitehurst's LeLong 1, ne nw ne 25-12n-11w, sd 3113 ft. W. J. Hunter's Long-Bell 4, se se 30-13n-9w, no report. **Sabine**—W. L. McClanahan et al's Frost-Johnson 1, se ne sw 22-9n-13w, elev 196.2 ft, top Nacatoch 1531 ft, top Saratoga chalk 1578 ft, Annona chalk 1816-2041 ft, Austin chalk 2854-3007 ft, top Glen Rose 3286 ft, blew out gas, so 4745 ft, td 5709 ft, waiting orders. H. M. Sneed et al's Leone 1, nw se 8-7n-13w, mim. J. G. Sutton-Zwolle Oil Co.'s Bowman-Hicks 1, w½ sw se 14-7n-14w, blew out 2909 ft, flowing est 25 bbls hr through 9⅝-in csg, drill stem in hole. Bowman-Hicks 2, w½ sw nw 24-7n-13w, lcn. Albert Reich et al's Giaque 1, ne se ne 27-7n-14w, dr 4355 ft. F. W. Martin & Co.'s Sabine 2, c e½ ne ne 23-7n-14w, lcn. A. Boykin King's Sabine 1, c nw nw 19-7n-13w, sd 4517 ft, may deepen to 6000 ft. Sabine 1-A, c w½ nw nw 19-7n-13w, lcn. Sabine 2, c sw nw 19-7n-13w, lcn. Zwolle Synd.'s Mansfield Hdw. Lbr. Co. 1, ne ne 8-7n-14w, dr 2210 chalk. Tropical Oil Co.'s (was Quality Prod. Co.) Long Bell Lbr. Co. 1, se se 5-8n-13w, dr 1250 ft. **Webster**—W. M. Chambers' Thomas 1, se se 11-22n-11w, ru & sd. Magnolia's Pardee Co. 1, ne nw ne ne 17-23n-11w, elev 203 ft, top Blossom 2665 ft, tested 17 joints sw 16 min dst 2664-73 ft, dr 5490 ft. H. M. Branton 1, ne ne 6-22n-9w, lcn. Bailey-Rosenberry 1, nw se 29-23n-9w, lcn.

MICHIGAN

Allegan—Sutherland's Klein 1, 10-3n-14w, dr 1545 ft. United's Low 1, 24-1n-15w, sd 1170 ft. Leighton Oil's Wiggins 1, 15-4n-11w, rig. Morris' Seeley 1, 24-1n-14w, rig. **Arenac**—Tamblyn's McFarlan 1, 34-20n-3e, dr 2200 ft. **Calhoun**—Verona Crude Oil's Fruin 1, 29-1s-7w, sr 2060 ft. **Cass**—Guy Obenauer's Neel 1, 6-5s-14w, dr 500 ft. **Clare**—Gulf Ref. Co.'s Ann Arbor Railroad 1, 21-18n-5w, Monroe 4014 ft, so & w 4020-22, sd 4026 ft. **Clinton**—McDonald's Koeppen 1, 19-6n-3w, dr 500 ft. **Gladwin**—Brehm Oil Co.'s Kitchen 1, 20-19n-1w, dr 1050 ft. **Gratiot**—Michigan Chemical's Fee 9, 24-12n-3w, wocs 5 in 3280 ft. Lakeland Refineries' Munson 1, 26-10n-3w, wocs 6 in 920 ft. **Huron**—Leonard Prospecting Co.'s Milling Co. 1, 10-16n-15e, sr 2400-2600 ft. **Ingham**—Darke Brothers' Royston 1, 23-2n-1w, dr 2420 ft. **Isabella**—Turner Pet. Co.'s White 1, 28-16n-3w, dr 2800 ft. **Mackinac**—Van Kuren's Hiawatha Club 2, 27-44n-9w, dr 550 ft. **Macomb**—New Haven Oil Co.'s Schultz 1, 22-4n-14e, dr 340 ft. **Mecosta**—Daily Crude Oil Co.'s Thrush 1, 25-16n-7w, dr 1440 ft. Jetter Drilling Co.'s Deakins 1, 28-13n-7w, Dundee 3628 ft, water 3685 ft, dr 3710 ft. **Midland**—Sun Oil Co.'s State B-1, 9-15n-1w, Dundee 3672 ft, Monroe 3830 ft, so 4642 ft, dr 4779 ft. **Missaukee**—Teater's Gray 1, 32-23n-5w, sr 1200-1320 ft. Moser Oil Co.'s Scherenheim 1, 36-23n-7w, dr 1410 ft. **Montcalm**—Rex Oil's Hanson 1, 19-11n-8w, dr 2610 ft. Taggart Brother's Jacks 2, 7-12n-9w, so 2858 ft, dr 3018 ft. **Ogemaw**—Atha's Crow 1, 4-21n-1e, dr 1400 ft. **Oscecola**—Champion's Ealy 1, 30-20n-8w, skidding rig, lost hole 395 ft. **Otsego**—Summer's Geraldine 1, 28-30n-3w, dr 499 ft. Snow Trustee's Moore 1, 13-29n-2w, rust 1200 ft. **Shiawassee**—Buzard's McCall 1, 11-6n-3e, dr 1770 ft. **Van Buren**—Daily Crude Oil Co.'s Wise 1, 26-3s-13w, sd 1633 ft. **Wexford**—Schrack's Fee 1, 17-22n-9w, sd 3918 ft.

OKLAHOMA

Adair—Maddox-Penn's Mutual Life 1, c s½ ne nw 5-16n-24e, sd 520 ft. **Atoka**—Shelton's Leo 1, ne nw sw 2-4s-10e, drlg 3450 ft. **Choctaw**—Ross' Hardy 1, sec nw 21-7s-15e, rng 10 in 1030 ft. **Coal**—Carter's Mote 1, c e½ sw nw 19-2n-9e, coring 5396 ft. **Comanche**—Eldridge's Aetna 1, sw se sw 2-1n-10w, drlg 510 ft. Midnite's Howe 1, nwc 20-2n-13w, drlg 630 ft. **Creek**—Mosier's Holcomb 1, se sw nw 19-18n-8e, sd 3018 ft. **Garfield**—I. T. I. O.'s Kichin 1, c sec 17-22n-5w, 6 joints drill in hole 5196 ft. Champlin's Boehm 1, swc ne 4-24n-8w, coring 4972 ft. **Garvin**—First Natl's Butterly 1, nec se 22-1n-1e, sd 3205 ft. **Hughes**—Phillips' Becker 1, ne nw sw 8-5n-10e, running Schlumberger, td 6283 ft, pb 5680 ft. City of Holdenville's Fairgrounds 1, sec 13-7n-8e, fsg 1170 ft. Doup's Bond 1, nec sw 7-7n-9e, drlg 1240 ft. Phillaine's Morrison 1, sec sw 13-9n-10e, s.i. for tanks. Amerada's Conard 1, ne nw sw 33-10n-10e, drlg 2775 ft. **Kay**—Shaffer's McKee 1, ne sw 20-28n-1w, sd 2500 ft. **Kiawa**—Hughes' Fultz 1, sec 10-6n-18w, sd 1238 ft. Anderson's School Land 1, c sec 14-6n-17w, co 1523 ft. **Kingfisher**—Hollenback's Zerger 1, c se sw 5-18n-6w, sd 205 ft. **Lincoln**—British America's Markwell 1, c e½ e½ ne 26-12n-4e, drlg 1310 ft. **Love**—Sinclair Prairie's Peabody 1, nec 35-6s-2w, woc 5442 ft. **Marshall**—Hughes' Vittitoe 1, c ne se 11-5s-4e, sd 5960 ft. **Noble**—Hollenback's Mathews 1, c sw nw 9-20n-1e, sd 2140 ft. Texas Canadian's Shultz 1, nec 29-23n-1w, drlg 4839 ft. **Oklahoma**—Fain's Little 1, swc ne 28-11n-3w, drlg 6615 ft. Olson's Vaneck 1, se sw nw 4-12n-3w, installing blowout preventer, td 6531 ft. **Osage**—Chevalier-Simon's Osage 1, nwc 33-27n-5e, fsg 3405 ft. **Pawnee**—Sinclair Prairie's McQuain 1, ne nw ne 22-19n-1e, drlg 2985 ft. **Pittsburg**—Supreme's Stevenson 1, swc se 27-3n-14e, drlg 1150 ft. **Pontotoc**—Lee's Weatherly 1, nw se nw 24-1n-7e, sd 700 ft. Union's Abbott 1-A, sw nw ne 34-3n-6e, recementing csg. td 2013 ft. Moore's Payne 1, se nw se 16-4n-4e, drlg 1120 ft. Lynch's Parker 1, swc se 17-4n-8e, to acidize 4090 ft. Pierce's Kroeger 1, se ne sw 30-5n-7e, testing at 2094 ft. **Pottawatomie**—Farmers Mutual Waite 1,

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nec nw 9-5n-5e, testing at 2880 ft. Farmers' Mutual School Land 1, sec nw 16-5n-5e, drlg 2375 ft. Atlantic's McCurry 1, nw ne sw 6-6n-4e, rng 7 in csg, td 4210 ft. Speers' Vinson 1, sw nw sw 29-8n-5e, rig. Pace's Riley 1, nec se 2-9n-3e, pits. **Roger Mills**—Central's Lamb 1, sec 27-14n-21w, rig. **Seminole**—Boettcher's Morgan 1, se ne nw 8-5n-7e, drlg 1875 ft. Indian States' Johnson 1, ne se ne 2-6n-5e, sd 2850 ft. Southern's Rainey 1, nw ne se 12-7n-5e, sd 3765 ft. Simpson's Fleet 1-A, nwc 27-7n-5e, coring 3042 ft. Young's Edgeman 1, sec 17-7n-6e, rust at 4307 ft. Burke's Knappenburger 1, sw nw sw 28-10n-7e, drlg 2520 ft. Titus' Lehmar 1, c ne ne 26-11n-8e, s.i. for tanks, td 3481 ft. **Washita**—McWhirter's Fee 1, nw sw sw 34-8n-19w, fsg 2150 ft. Koberg's Harms 1-A, c nw ne 6-10n-16w, rig. Continental's Proctor 1, cnw¼ 28-10n-20w, rig.

WEST TEXAS

(This report is confined to the south and east portion of the Permian basin and the Delaware basin.)

Brewster—G. H. Storey et al's J. P. Wilson 1, c se nw T. & St. L. sec 3, blk 212, elev 3609 ft, sd 2545 ft. H. D. Wilcox et al's W. H. Kokernot 1, nw sw sec 12, blk C, J. V. Massey sur, sd 1871 ft. **Coke**—Barnett Pet. Corp.'s J. E. Mims 1, sec T&P sec 39, blk W, elev 2352 ft, sd 1861 ft. **Crane**—Ruston L. Ardrey, Tr.'s J. B. Tubb 1, swc PSL sec 20, blk B-32, elev 2552 ft, top anhydrite 510 ft, top salt 715 ft, top Yates 1520 ft, blew out 2760 ft, pb to 850 ft to sidetrack. Gulf's M. B. McKnight 4, c ne se PSL sec 3, blk B-21, elev 2701 ft, top Simpson 6160 ft, dr 6280 ft; University-Lasiter 2-B, swc sec 27, blk 30, dr 1290 ft; W. N. Waddell et al 8, c nw ne PSL sec 4, blk B-27, elev 2561 ft, top Simpson 5843 ft, top Ellenberger 6054 ft, dry and abd 6116 ft. Magnolia's University 1-15, swc sec 15, blk 30, elev 2637 ft, top Yates 2230 ft, top lime 3075 ft, top pay 3199 ft, td in sul w 3327 ft, pb to 3250 ft for shot. The Texas Co.'s University 1-G, nec sec 7, blk 30, elev 2642 ft, top anhydrite 1127 ft, top salt 1190 ft, top Yates 2150 ft, cem 7-in 3011 ft. **Crockett**—Will Ohlhausen et al's J. W. Owens 1, sd 1845 ft. J. T. Petty et al's A. C. Hoover 1, sec GC&SF sec 11, blk 1, sp and sd. Simpson & White's A. C. Hoover 1, nw ne ne sec 1, blk FF, dry and abd 525 ft. **Culberson**—J. E. Fitz-Patrick et al's Wm. Cameron & Co. 1, c nw nw PSL sec 24, blk 81, sd 945 ft. Preston W. Lewis et al's Nieuhaus 1, se se ne PSL sec 13, blk 109, top Delaware lime 1178 ft, dr 1580 ft. Harry J. W. Nieuhaus et al's C. M. Caldwell 1, se nw PSL sec 15, blk 109, elev 3878 ft, top Delaware lime 1165 ft, top sand 1215 ft, sd 2500 ft. L. G. Sheddan et al's S. J. Isaacs 1, center PSL sec 25, blk 52, sp and sd. **Jeff Davis**—H. F. Wilcox O&G Co.'s Jones-Coffield 1, nec H&TC sec 121, blk 4, elev 4537 ft, sd 3747 ft. **Ector**—Sinclair Prairie Oil Co.'s J. L. Johnson 3-A, nwc T&P sec 37, blk 43, T-1-S, elev 2992 ft, top anhydrite 1810 ft, making little water, dr 4390 ft; Paul Moss 2-B, swc T&P sec 40, blk 44, T-2-S, elev 3050 ft, top anhydrite 1390 ft, top Yates 2565 ft, recovered tools, dr 3040 ft. Ben Rogers et al's J. T. Cross 1, sw nw ne T&P sec 42, blk 44, T-1-S, lcn. **El Paso**—Tri-State Oil Co.'s Kinkel Bros. 1, nec sec 237, S. F. No. 7232, elev 3977 fsh 3571 ft. **Fisher**—Forest Dev. Corp.'s W. E. Morrow 1, c nw nw H&TC sec 48, blk 2, dr 2390 ft. Daube Bros. et al's R. S. Hardy 1, near c sw sw H&TC sec 49, blk 2, rur. Daube Bros. & Forest Dev. Corp.'s A. C. Bennett 1, c ne ne H&TC sec 51, blk 2, elev 2018 ft, top Noodle Creek lime 3679 ft, pay 3685-93 ft, pb fr ws 3699 ft, used 2500 gals acid, pumped 493 bbls 43.2 gravity oil initial. Owens-Snebold Oil Corp.-A. C. Varner's J. H. Milsap 1, swc w½ ne H&TC sec 61, blk 1, sd 525 ft. T. G. Shaw Oil Corp.'s J. B. Stribling 1, c se se H&TC sec 110, blk 3, dr 1560 ft. **Tom Green**—Southern Cross Oil Co.'s J. W. Wilson-Upton 1, c nw AB&M sec 30, blk A, lcn. Spinner Oil Co.-H. L. Fannin's B. Reed 1, sub-div 39, Mayson-Perry sur, trace gas 4475-95 ft, sd. M. R. Stuard et al's Frank Garlitz 1, J. H. Mueller sur No. 2201, Certf. No. 760, sd 785 ft. J. B. Watson et al's Llano 1, sec 16, Llano C. S. L. sur, sd 167 ft. **Howard**—S. S. Owens et al's D. S. Wright 1, nw se se T&P sec 33, blk 33, T-3-N, elev 2747 ft, dr 1375 ft. Ward Powell et al's Guitar 1, c ne sec 17, blk A, Bauer-Cockrell sur, elev 2508 ft, top anhydrite 1195 ft, top salt 1255 ft, dr 2480 ft. **Hudspeth**—Haymon Krupp Oil & Land Co.'s K. S. Briggs 1, nwc T&P sec 24, blk 73, Tsp. 7, elev 4016 ft, td 4226 ft, pb to 4155 ft, test dry, dr 4335 ft; S. J. Thaxton 1, near sec ne se T&P sec 34, blk 74, Tsp. 6, top gray lime 4580 ft, ur 4712 ft. **Loving**—Argo Oil Corp.'s T&P Land Trust 1, se se sw T&P sec 17, blk 55, Tsp. 1, elev 3097 ft, top Delaware sand 3926 ft, pay 3945-84 ft, shot 130 qts, 3945-75 ft, testing 400 ft oil; T&P Land Trust 1-B, nwc T&P sec 21, blk 55, Tsp. 1, top anhydrite 1307 ft, cem cas 3940 ft. Shell's T&P Land Trust 1-a, near sw se se T&P sec 17, blk 55, Tsp. 1, td 3705 ft, pb to 3351 ft, lost 2700 ft drill pipe. **Menard** — Hartzell-Nawn & O'Hara Synd.'s Wilhelm 1, sec se sec 24, Indianola Ry. sur, A-1795, sd 655 ft. Lee Pet. Co.-C. D. Hagerty's Jas. Callan 1, swc e½ of J. M. Franz sur, sec 36, elev 2026 ft, sd 1270 ft. **Nolan**—Frank-Oyster-Ajax Drl. Co. et al's E. H. Withers 1, c sw T&P sec 65, blk 21, elev 2323 ft, cem 7-in 3561 ft, td 3571 ft, rust. **Pecos**—Cox & Moore's White-Baker 1, c sw se T. C. sec 43, blk Z, sd 430 ft. J. N. Gregory et al's O'Neill-Humble 1, south cor n¼ H&GN sec 74, blk 10, jkd 486 ft, skid rig. Magnolia & Tex-Mex Pet. Corp.'s J. H. McKee 1-a, near nw nw sw H&GN sec 24, blk 9 (jkd twice), elev 2385 ft, top Simpson 4775 ft, top Ellenberger 6102 ft, sul w 6262-67 ft, pb to 5300 ft, shot 190 qts 5265-5300 ft, show gas, rur to cleanout. E. R. Minshall et al's Haynie 1, sw sw nw T. & St. L. sec 28, blk 146, elev 3132 ft, dr 2985 ft. H. H. Sides et al's Blackstone-Slaughter 1-a, near sec T. & St. L. sec 25, blk 130, dr 1780 ft. Stanley A. Thompson et al's Elsinore Cattle Co. 1, se se GC&SF sec 53, blk D, elev 2938 ft, dr 7238 ft. Union Oil & Mining Co.'s First Nat'l Bank 1, near nec H&GN sec 6, blk 9, elev 2410 ft, sd 1760 ft. **Presidio**—Brite Production Co.'s L. C. Brite 1, ne¼ GH&SA sec 113, blk 12, sd 5427 ft. **Reeves**—Frankley & Rice's W. A. Tunstill 1, ne ne nw T&P sec 10, blk 56, Tsp. 2, mim. Lagoki Oil Co.'s Richards-Shaw 1, c n½ nw PSL sec 16, blk 59, sd 130 ft. Ohio Oil Co.'s Popham L&C Co. 1, nw T&P sec 18, blk 54, Tsp. 10, elev 3623 ft, td 2380 ft, dr by tools 2145 ft. **Reagan**—Thomas Drl. Co.-E. H. Van Patton's J. O. Carr-Sun 1, near c ne sec 4, M. N. Hines sur, elev 2638 ft, dr 1515 ft. **Runnels**—F. G. Beaudoin & Rex Cannon's H. Giesecke 1, blk 130, Jas. Hughes sur No. 227, sd 520 ft. J. W. McLean et al's E. H. Pflueger 1, Asa Clark sur A-506, sd 1327 ft. Homer-Price-A. E. Koener et al's J. C. Beddo 1, sub-div 51, D. Diaz sur, elev 1700 ft, top Palo Pinto lime 3498 ft, saturated lime 3515-3603 ft, used acid pb to 3525 ft, swabbing little oil and water Stephenson & Jackson's W. J. Fowler 1, near ne ne sw E. T. Ry. sec 150, sd 1355 ft. **Schleicher**—J. M. Cooper-Cardinal Oil Co.'s Bert Page 2, c ne sw GH&SA sec 40, blk L, elev 2289 ft, top lime 5320 ft, so&g 5333-37 ft, cem 5331 ft. H. P. Opp et al's J. T. Jackson 1, nw ne T. C. sec 41, blk LL, elev 2353 ft, sd 100 ft. **Scurry**—H. H. Coffield & Guthrie, Inc.'s E. E. Spears 1, nw nw sw H&TC sec 130, blk 97, elev 2294 ft, top lime 1512 ft, sd 2615 ft. P. G. Moran et al's F. W. Hardee 1, nwc H&TC sec 99, blk 97, sd 1000 ft. S. B. Roberts & Co.'s C. M. Wellborn 1, c w½ sw H&TC sec 146, blk 25, sd 670 ft. **Sterling**—John W. Sward et al's T. G. Brennand 1, se se ne H&TC sec 107, blk 2, elev 2535 ft, top anhydrite 918 ft, top Yates 1028 ft, top brown lime 1746 ft, top solid lime 1820 ft, dr 2755 ft. W. F. W. Oil Co.-Cannon Bros.' Foster 1, c ne S. P. Ry. sec 9, blk 13, elev 2401 ft, top

WHAT'S NEW
IN NEW YORK

● Recent guests of the Hotel McAlpin know all about its big, new rooms, so smartly decorated, so luxuriously furnished, bright, cheerful, restful.

Hotel McAlpin retains its great popularity because it maintains its immaculate accommodations, provides every modern comfort, performs fine service—and keeps its rates **low.**

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The Resort Capital of America
MEXICO CITY...

COOL IN SUMMER
WARM IN WINTER

De luxe accommodations at rates much lower than for comparable accommodations in the United States. English inquiries answered in English.

W. E. ANTRIM
Managing Director

HOTEL
Reforma

THE SOCIAL CENTER OF MEXICO

anhydrite 650 ft, top Yates 905 ft, top brown lime 1635 ft, top solid lime 1700 ft, dry and abd in sul w 2444-47 ft. **Stonewall**—Bert Fields et al's R. P. Pierson 1, c 80-ac lse, E. A. & S. M. Lee sur, A-817, elev 1806 ft, anhydrite 2040-2200 ft, Saddle Creek lime 3180-3200 ft, top Cook sand 3242 ft, dry and abd 4202 ft. Gen'l Crude Oil Co.'s J. D. Smith 1, sec H&TC sec 371, blk 2, elev 1958 ft, base red beds 2115 ft, top Dothan 3530 ft, top Noodle Creek 3640 ft, top Saddle Creek 3813 ft, hfw 4751 ft, dr 4770 ft. Percy Jones et al's fee 1, nwc sec 2, Austin-Williams sur No. 348, elev 1701 ft, dry and abd 3584 ft. E. C. Lawson et al's Ada Pumphrey-Gen'l Crude 1, Eli Chandler sur, dr 2710 ft. A. G. Swanson & F. B. Parriott's H. T. Carlisle 1, sw se sw H&TC sec 293, blk D, elev 2806 ft, top Noodle Creek lime 3332 ft, top Adams Branch lime 4700 ft, top Palo Pinto lime 5167 ft, pay 5172-76½ ft, used 500 gals acid, flowed 330 bbls oil initial. **Terrell**—Schermerhorn Oil Corp.'s H. P. Allison 1, c se¼ sec 22, blk B-2, CCSD&RGNG sur, elev 2649 ft, top Rustler 710 ft, dr 770 ft. **Ward**—J. E. Fitz-Patrick, Frank T. Pickrell et al's H. B. Carr 1, c w¼ n¼ of H&TC sec 125, blk 34, elev 2645 ft, top Rustler 705 ft, top lower salt 3575 ft, dr 3630 ft; F. I. Dyer 1, w¼ n¼ H&TC sec 135, blk 34, elev 2709 ft, top Rustler 695 ft, base salt 3845 ft, top Delaware lime 5081 ft, sd 5085 ft.

EAST TEXAS BORDER COUNTIES

Marion—Tom Bell's Carrie Moseley 1, D. Lane sur, ran electrical tester, sd 2768 ft. Ark. Fuel Oil Co.'s Wallace Johnson 1, Alexander Johnson sur, elev 217 ft, top anhydrite stringer 5256 ft, top Henderson sand 5984 ft, tested est 30 mcf wet gas 5982-6002 ft, dr ahead 6085 ft. Texas Co.'s Claude Adams 1, Thos. Cox sur, 13⅜-in csg 579 ft, 9⅝ in csg 5940 ft, elev 287 ft, top lower Marine 7792 ft, dr 9590 ft, black shale. Walters et al's Phomplin 1, W. Moore sur, set 12½-in csg 68 ft, sd 220 ft. Petroleum Heat & Power Co.'s Frost Lbr. Co. 1, Jno. H. Gibson sur, lcn; J. W. Bird 1, Geo. Gallasty sur, lcn. **Sabine**—Hugo Allen et al's (was H. R. Smith), Mrs. Jenny Brook 1, Isaac Low sur, 7 mi ne Hemphill, 360 ac, sd 2345 ft, no report. **Shelby**—C. L. Cope's Pickering Lbr. Co. 1, English sur, rur. Vaughn Prod. Co.'s Pickering Lbr. Co. 1, Brooks sur, lcn. Shelby Oil Co.'s Windham 1, A. K. English sur, cored saturation 3397-3422 ft, testing td 3422 ft ;J. C. Windham 1, nwc Shelbyville townsite, lcn. A. R. Blount's Ethel Lovett 1, block 55, Shelbyville townsite, lcn. Mallard & Locke's (formerly DeArman & Mallard), W. E. Roller 1, J. Sullins sur, top massive anhydrite 4823 ft, abd 6510 ft. Redditt & Gray's Pickering Lbr. Co. 2, sec 237.8-ac tract, P. J. Loggins sur, testing 7-in csg cemtd at 2920 ft, td 4225 ft, per csg 2905-10 ft, tested sg, arr to deepen. Richards & Holloway's Ashberry 1, G. W. Mitchell sur, owdd, td 3405 ft.

SOUTH TEXAS

CORPUS CHRISTI DISTRICT

Bee—Aid's Hall 1, Kerr sur, set sur csg. Atlantic's Courtney 1, Kerr sur, sp. **Calhoun**—Hiawatha's Roemer 2, Stapp sur, sd repairs, 6230 ft. **Goliad**—Bunte's Taylor 1, Smith sur, dr below sur csg. Sun's Shaper 1, Payne sur, dr below sur csg. **Hidalgo**—Harding's Mosser 1, lot 3, blk 12, Pershing & Steele subd, wo rig. Harding & Pantano's Woody 1, por 69, testing perfs 7074-82 ft. Johnson's Daskam 1, por 45, dr below 4000 ft. Phillips' Flores 1, por 39, cor 5850 ft. Smith's Fairbanks & Young, dr 2600 ft. Wheelock & Collins' Temple 1, between La Blanca and Llano Grande Grants, sd below 5000 ft acct high water. **Jackson**—Magnolia's West 3, Musquiz gr, sp. **Jim Wells**—Bennett's Perkins 1, La Vaca gr, dr below 4900 ft in sdtr hole, otd 5658 ft. Chew's Adams 1, Woldron O&G subd, lcn. Cosner's Stillwell 1, Collins farm lots subd, dr rat hole. Howell's Mosser 1, Collins subd, dr below 5480 ft in sh, last report; Stillwell 1, Collins subd, lcn; Wallis & Hawkins 1, San Diego & Flores sur, dr 3000 ft. Humble's Adams 1, Lopez gr, Magnolia's Martin 1, Ana Maria Vaca lge, dr below 2500 ft. Magnolia's Seeligson 10, Los Jaboncillos gr, ru; Valadez et al 1, La Anima Sola gr, si, made dry gas, 3550 lbs. tbg. pressure, 3635 lbs. csg pressure. Shell's Von Blucher 1, Best sur, cor 5760 ft. Smith & McDannald's Rooney 1, Gallagher subd, lcn. Transwestern's Dunlap 1, sur 179 and 181, dr below cond. pipe. **Karnes**—Fomax' Pfluger 1, Seguin sur, prep mim. **Kleberg**—Pure's State 1, tr 522, dr 8250 ft. **Live Oak**—Adair's Schultz 1, sur 134, sd, repairing rig. Bailey. Bailey & Thorman's McDermott 5, Killeley & Henry gr, dr 1400 ft. Holland's Wallace 1, tr 1108, West subd, dr 600 ft; West 2, Rogland sur, cor below 2650 ft. Holland & Smith's Bonham 1, Simmons subd, pb to test 1605-10 ft. Kelley's Nichols 1, Henry sur, abnd. The N-P's Griffith 1, sur 49, below sur csg. Richardson's West 1, West subd, sd, woo, td 3300 ft. Terby's Y'Banez, West subd, dr below 3350 ft. Wallace & Jones' Burrows 1, sur 138, dr 600 ft. **Nueces**—Seaboard's Lockett 1, Villareal gr, cor below 6580 ft. **Refugio**—Allen's Rooke 2, Aldrete gr, testing, perfs 5431-33 ft. **San Patricio**—Bennett's Ivey 1, Coleman-Fulton Pasture Co. lands, sp. Humble's Henry 1, sec 27, Taft Farm Lands, dr 4750 ft. **Victoria**—Chew's Booth 1, sec 10, lcn.

LAREDO DISTRICT

Duval—Foster's Foster 1, sur 268, dr 1700 ft. Gravis' Megerle 1, sur 245, testing Pettus sand 5754-68 ft. Huff's Worden & Drought 1, sur 154, dr below 500 ft. Magnolia's Duval Ranch 1, sec 83, set sur csg. Porter's Driscoll 1, sec 292, dr 600 ft last report. Rowan & Hope's Cuellar 1, sur 96, dr 3000 ft. Standard of Texas' Garcia 1, Concepcion gr, trying to run csg to btm, 6317 ft, in heaving shale. Stewart & Nye's Peters 1, sec 29, dr below sur csg. Wagner's Lampe 1, sur 497, lcn. **Jim Hogg**—Humble's Bass 2, San Rafael gr, dr 1000 ft. **McMullen**—Boysen & Jones' Nueces 4, sur 1, abnd. Schimmel's Hagist 6, sur 108, dr 2000 ft. Spice's Edrington 1, sur 57, mim. **Starr**—Graham's Gutierrez 1, por 88, dr around 600 ft. Sun's McKinney 1, sur 242, still ru. **Webb**—Achning & Sheig 1, sur 463, dr plugs, bailed dry, woo, td 1590 ft. Appell's Laurel 1, sur 1006, dr 350 ft. Morton's Laurel 1, sur 333, testing 2020 ft. Nicholson's Nicholson 1, sur 910, sd, repairs, 2918 ft. O'Byrne & Atkinson's Lacy 1, sur 2050, dr 2200 ft. **Zapata**—Thompson & Lowe's Ramirez 1, por 18, dr 850 ft.

SAN ANTONIO DISTRICT

Atascosa—Western Gulf's Vanegas 1, Garza gr, dr 2000 ft. Hartman's Smith & Mowinckle 1, sur 172, td 4000 ft, to comp as wtr well. **Bastrop**—Teas' Grizzard 1, Graham lge, td 4700 ft, dr wtr well. **Bexar**—King's Rosenbrook 1, Duran sur, dr 200 ft. **Blanco**—Johnson's Glasscock 1, sec 50, sd 850 ft. **Burleson**—Peerless' Railroad 1, Lastley lge, sd, 1100 ft, acct high wtr. **Caldwell**—Artz's Campbell 1, Martinez sur, laying wtr line, 850 ft. Luling's Carter 4, Hinds sur, dr below 2500 ft, last rept. Tinkle's Blackwell 2, Roe sur, dr 2050 ft. **Frio**—Smith's Land Bank 1, sur 1, dr below sur csg. **Guadalupe**—Flower's Koepp 1, Eshaurrizer sur, dr below 360 ft. **Kendall**—Dorsey's Flannagan 1, Sweeney sur, prep mi larger rig, td 350 ft. Millican & Norman's Werner 1, sur 781, sd 747 ft. Reed's Marquart 1, Traviesso sur, sp, stg sur csg. **Kimble**—Phillips' Mudge 1, sur 7, dr 1600 ft. Plateau's Bolt 1, sur 42, wocs, 150 ft; Hunger 1, sur 43, wocs, 600 ft. **Maverick**—Lockhart's Asbrook 1, sur 83, dr below 2000 ft. Stroman's Meyer 1, sur 44, lcn. Wellington's Chittim B-1, dr 300 ft. **Medina**—Cromwell's Tondrie 1, Rogers sur, still swbg, 1250 ft, pb td 1080 ft. Killian, Cruseturner & Martin's Wiemers 1, sur, 51, dr below 200 ft. Stieren's Hoeglin 1, sur 335, wo rig, 400 ft. Ziegler's Weimers 1, sur 274, dr below 665 ft. **Travis**—R. F. C.'s Jones 1, Hornsby sur, td 1123 ft, testing oil show.

TEXAS GULF COAST

Brazoria—W. C. Neville et al's Houston Farms Dev. Co. 1, Rattlesnake Mound, Perry and Austin sur, waiting on cement 1207 ft. G. C. McCarthy's G. C. Street 1, Pearland area, D. H. Hunter sur, new lcn. Sterling's Kramer 1, flank test at Stratton Ridge, T. W. Grayson sur, dr shale and lime 3695 ft, will plug back to 3200 ft. Texas Co.'s Jones 1, sw of Manvel, HT&B. No. 64, dr hard shale 6937 ft. **Ft. Bend**—Sam E. Wilson's Wood 1, Fresno, C. Heywood sur, abn 6852 ft. H. C. Adams' P. I. Sury 1, 2 mi s of Needville, dr shale 3680 ft. **Galveston**—Sun's Cade 1, Bolivar, A. Dickson sur, plugged back to sidetrack, td 7328 ft. **Harris**—Commerce Oil Co.'s Meadowbrook Dev. Co. 1, w of South Houston, J. R. Harris sur, dr hard shale 8501 ft. H. H. Given's Adoue 1, Addicks, D. Middleton sur, derrick. S. G. Harrison et al's Lafferty Estate 1, sw of Clinton, dr shale 2650 ft. **Jefferson**—Humble's State B-6, in Gulf of Mexico, off shore of Jefferson County, Tract 7, dr anhydrite 1880 ft. **Liberty**—Sun's Jordan 1, Batson Prairie, L. Gedruf sur, dr 7853 ft. Texas Co.'s Page 1, West Hardin area, J. Hanley sur, dr shale and lime 7317 ft. **Matagorda**—Ohio's Cornelius 1, n of Markham, P. U. Yarborough sur, moving in rig. **Newton**—Republic Production's Sabine Tram 1, nw of Starks, I. Garner sur, moving in rig. **Polk**—Jack Frazier's Sol Bergman 1, J. D. Thomas sur, Goodrich area, dr 675 shale. **Washington**—Mt. Selman Oil Co.'s W. Pohlmeyer 1, 6 mi ne Brenham, A. Kuykendall sur, lcn.

ROCKY MOUNTAIN STATES

COLORADO

Elbert—Plymouth Oil Co.'s Brosky-Union Pacific 1, sw sw 19-10s-60w, mim. **Las Animas**—Garcia Corp.'s McClung 1, ne nw se 19-33s-61w, resumed and dr at 2239 ft. **Mesa**—Continental-California-Amerada's Miller 1, sw sw nw 36-8s-91w, dr 5371 ft. **Moffat**—C. R. Privett's Sutton-Government 1, ne ne sw 1-5n-96w, sd 460 ft, running 12½ in csg to 430 ft for water shutoff. **Park**—South Park Oil Co.'s Lemarr 1, ne ne se 34-11s-75w, dr 5986 ft. **Prowers**—Continental's Ruby 1, cne nw 31-21s-44w, fsg 5065 ft. **Pueblo**—Ed Puckett's Barber 1, se nw 35-21s-66w, sd 630 ft. **Rio Blanco**—Buford Oil Co.'s Government 1, csw sw 16-1n-91w, co 2430 ft to set csg. **Routt**—Steamboat Synd.'s Brown 1, cnw ne 1-6n-86w, set csg at 100 ft.

MONTANA

Fergus—Baugham & Singley's Skaggs 1, cnw sw 7-15n-20e, dr 1045 ft. **Teton**—Gulf States Oil Co. & Zodiac Oil Co.'s Wallenstein 1, sw sw sw 5-27n-5w, sd 1920 ft to run 10-in csg to 1910 ft. **Toole**—Montana Gas Corp.'s Clark 2, cse sw 24-37n-1w, pb 2103 ft, td 2630 ft.

NEBRASKA

Sioux—Union's Buckley 1, nwc se se 15-28n-55w, fsg 6843 ft.

NORTH DAKOTA

Williams—California Co.'s Kamp 1, cnw se 3-154n-96w, dr 9909 ft.

SOUTH DAKOTA

Fall River—Carl Kundy's 1-x, sw sw ne 20-10s-4e, dr 3357 ft.

WYOMING

Lincoln—H. C. Harris' Government 1, se nw nw 23-21n-117w, dr 865 ft. **Sublette**—Frontier Pet. Co.'s Government 1, se se sw 1-28n-114w, mi rt.

NEW! The Type NRM 124 LINK-BELT *Vibrating* SCREEN

● This new unit is recommended for shallow and medium depth drilling rigs. Present performances show it capable of handling the discharge from a pump as large as 7¼″ x 18″. Designed to incorporate all of the features of the standard Link-Belt mud screen, including fine mesh stainless steel screen cloth, rubber cushioned; adjustable feed; enclosed vibrator unit; unitized collecting tank; self-contained drive, etc. More economical in price and maintenance. Send for complete details. 7470

FOR SHALLOW to MEDIUM DEPTH DRILLING RIGS

LINK-BELT COMPANY

Philadelphia Houston Tulsa Dalla
Los Angeles New York

ALL-STEEL PUMPS . . . BY ABERCROMBIE

In our advertisement appearing in the July 25th issue of The Oil Weekly, we mistakenly, but in good faith, used this picture of an Abercrombie Fluid Piston Slush Pump.

The accompanying text could be taken to mean that the fluid end of this make of pump is made of cast iron.

As a matter of fact, Abercrombie have standardized on electric furnace alloy cast steel for the fluid end of their pumps for years.

We are taking this means of clearing up any misinterpretation that our advertisement may have caused regarding the material used in the Abercrombie pump.

Climax Molybdenum Company

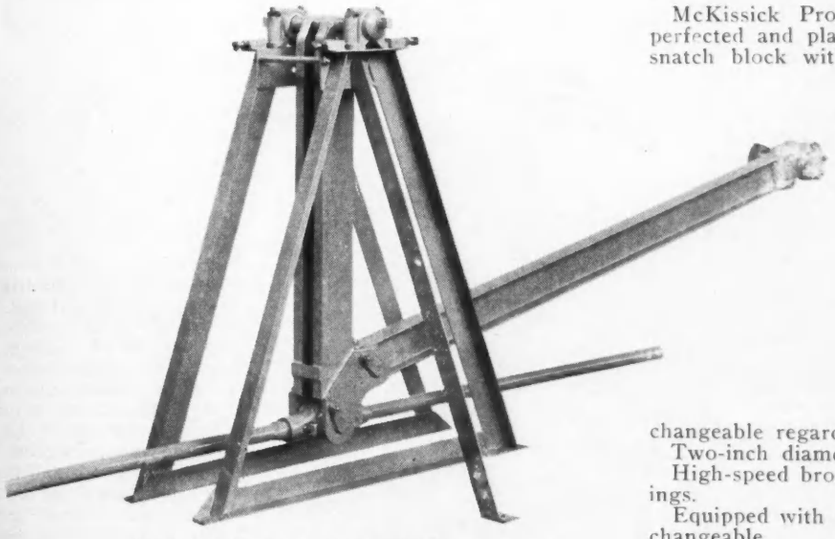
MOLY

PRODUCERS OF FERRO-MOLYBDENUM, CALCIUM MOLYBDATE AND MOLYBDENUM TRIOXIDE

NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Equipment

BACK CRANK PENDULUM
The National Supply Company

The National Supply Company, Toledo, Ohio, has placed on the market a new type K back crank pendulum designed for pumping additional wells from back side cranks where pull-rod loads do not exceed 15,000 pounds. It is furnished complete with frame, pitman and wrist pin. Large expensive foundations and high-throw-offs are avoided; the rod lines are as close to the ground as possible.



National back crank pendulum.

The frame is fabricated in two halves with diagonal braces, which when assembled on the foundation, constitute a very rigid structure. The pendulum arms are two steel channels with the saddle shaft welded integrally. Arc welded construction is used throughout. A feature of the pitman is the elimination of the ball and socket wrist pin construction in favor of a more simple and easily lubricated design. By hinging the wrist pin bearing housing on a large diameter pin, complete self-alignment is secured, allowing the use of the more desirable straight bushing and wrist pin design.

Pendulum saddle bearings are adjustably mounted with set screws on the frame so that accurate alignment can be secured. These bearings are cast iron with oil reservoirs and Perfect oil seals. Pull-rod connection, pitman and wrist-pin bearings are all bronze with oil reservoirs and Perfect oil seals. Connection housings are made for 2⅜-inch O.D. welded pipe extensions. Proper alignment of the pipe extensions throughout the stroke is permitted by hinging the pipe socket on the pitman side to the housing.

PERFORATION WASHERS
Eastman Manufacturing Company

Eastman Manufacturing Company, Dallas, Texas, recently announced the development of a new perforation washer service that will serve every practical need for operators to check accurately and wash perforations. The company's claim is that it has a particular type of washer for the different needs depending upon the conditions as to which type of washer or well cleaner should be used.

The Perkins type washers not only check and wash perforations but also check perforations and wash the well fluid back through the perforations and against the walls of the hole. This type is also used for wells with extremely low fluid levels.

The Eastman-Yowell washers effectively force acids behind perforated casing and liners under pressure, will locate holes in casing, will wash liners loose so that they can be easily removed, will wash out cavities for cementing and will open perforations for water locating service. This well cleaner is more effective in wells with high fluid level and is particularly adaptable to wells that build up heads of gas as this accentuates the cleaning process and assists in the removal of heavy solutions from the well up through the tubing.

SNATCH BLOCK
McKissick Products Corporation

McKissick Products Corporation, Tulsa, has recently perfected and placed on the market a new quick-opening snatch block with positive locking feature. Attention is called to the extreme flexibility of operation due to the fact that the swivel hook may swing to conform to angle of pull—the hook is not rigid.

Opening is accomplished by merely lifting plate out of locking position. Closing is automatic by reason of tension spring forcing plate into locking position. Some of the other features incorporated in these new blocks are:

Load on locking plate is carried by large center pin.

Frame plates cannot spread under heavy load.

Steel sheaves, grooved for 1½" manila rope or any size wire line specified. Sheaves of same diameter are interchangeable regardless of line groove.

Two-inch diameter sheave pin—extra heavy.

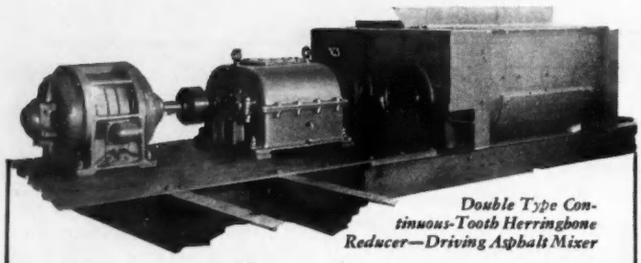
High-speed bronze bushings, or hi-load type roller bearings.

Equipped with swivel hook or with swivel becket—interchangeable.

OIL WELL CHAIN
Jeffrey Manufacturing Company

Jeffrey Manufacturing Company, Columbus, Ohio, has recently placed on the market a new precision oil well chain for deep drilling which is built of heat-treated alloy steels. This new chain introduced under the trade name "Devil

Jeffrey oil well chain for deep drilling.

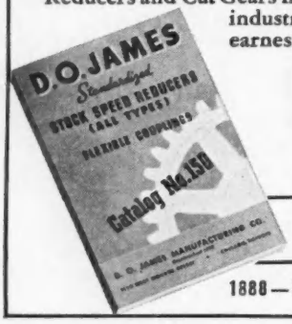


Double Type Continuous-Tooth Herringbone Reducer—Driving Asphalt Mixer

Power Saving PRODUCTS

D.O. James Speed Reducers and Cut Gears are the choice of experienced engineers because they give the greatest efficiency between applied and delivered power—and have a low original cost. Their dependability is assured due to precision production following approved design.

The D. O. James manufacturing facilities are most modern, embracing machinery of the latest design, making all types of gears and speed reducers. The plant covers over 200,000 square feet. D. O. James Speed Reducers and Cut Gears have faithfully served all types of industry since 1888. Your inquiries are earnestly solicited. Send for catalogs.



D. O. JAMES
MANUFACTURING COMPANY
1120 W. MONROE STREET
CHICAGO • ILLINOIS

Send for Catalog No. 150, containing 180 pages of engineering data and prices on all types of speed reducers.

1888—FIFTY YEARS OF GEARS—1938

LUDLOW

ALL ALONG THE LINE

Need a special valve? Ludlow can give you just what you want. Our engineers are thoroughly familiar with oil and gas problems—and know the right answers. Ludlow valves are reliable, last longer, save you money. Send in your specifications or request complete catalog.

419 West Alabama, Houston, Texas.

MID-CONTINENT SUPPLY CO., Houston, Texas

The LUDLOW VALVE MFG. CO.
TROY, NEW YORK

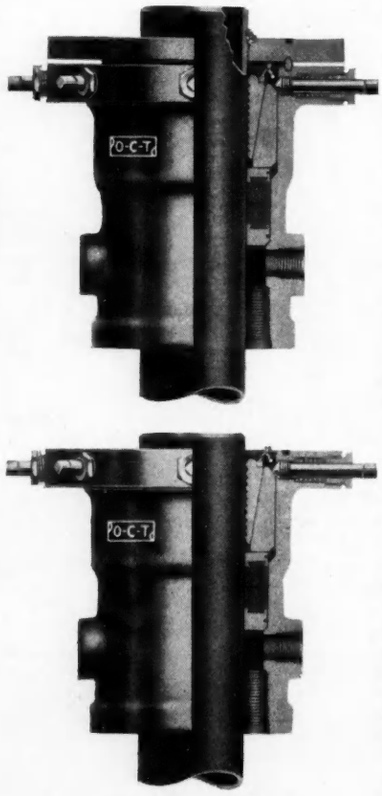
Dog" in the API No. 4 size weighs 16.3 pounds per foot and has an ultimate strength of 170,000 pounds.

In this chain elongation caused by initial "breaking-in" wear is eliminated in the factory by fine finishing of the bearing surfaces to accurate measurements. Side bars are drop-forged and ribbed; pins are centerless ground and cadmium plated; bushings are machined from solid bar and centerless ground inside and out; and rollers are machined from solid stock. This same chain also is furnished in API No. 3 size, with an ultimate strength of 75,000 pounds and a weight of 8.3 pounds per foot.

SLIP TYPE CASING HEAD

Oil Center Tool Company

Oil Center Tool Company, Houston, Texas, recently placed on the market a new slip type casing head, designated as type "C-9-PS," and designed to permit hanging of casing at any desired point through blow-out-preventer equipment.



O-C-T "C-9-PS"

The accompanying illustrations clearly show the design of this new head. After running casing in to the desired suspension point, split packing rings of Neoprene, and slips are lowered into the head body and casing is suspended. Weight of the casing string is transmitted through the slips and slip bowl to compress the packing below the slips. Making up on hold-down screws provided forces the slip bowl downward against the packing to aid in effecting a seal.

The O-C-T type "C-9-PS" Casing Head is available with or without a welding flange at top as illustrated above, which provides a means of holding the casing down as well as serving as a secondary seal above the slips. The flanged top accommodates a flanged type tubing head.

The head is available in all sizes and in test pressures ranging up to 10,000 pounds.

HEAVY-DUTY CONTROLLERS

Cutler-Hammer, Incorporated

Cutler-Hammer, Incorporated, 414 North 12th Street, Milwaukee, Wisconsin, has recently placed on the market a new line of D. C. heavy duty controllers for all machine tool applications.

A new timing device which operates magnetically on the principle of a condenser discharging through a magnet coil provides simple, positive and definite time acceleration which is unaffected by load, temperature or other working conditions. Once adjusted to obtain the desired starting period, the controller will always accelerate in this same time. The operator quickly becomes accustomed to this uniform performance and will automatically increase his productive efficiency.

The controllers include non-reverse and reversing types, with and without dynamic braking, for both constant-speed and adjustable-speed motors. They are available for use with either pushbutton or drum type master switch and in all standard NEMA ratings up to 75 horsepower, 115 volts; and 150 horsepower, 230 and 550 volts.

This Week with the Industry's EQUIPMENT SUPPLIERS

Lowes Appointed S. M. Jones Company Dallas Representative

P. C. Jones, president of The S. M. Jones Company, announces the appointment of J. W. Lowes, Jr., as district representative of the Dallas Territory. Lowes will cover the Dallas district for the company which comes under the jurisdiction of L. J. Pundt, division manager, with headquarters in the Dallas National Bank Building.

Lowes is a graduate of Carnegie Institute of Technology, was formerly associated with the field engineering department of The S. M. Jones Company, was then transferred to the field as Western Kansas district representative, more lately has served as Tulsa district representative and brings to his new position a considerable experience in both field practice and engineering study of sucker rods.

J. W. LOWES, JR.
District representative, The S. M. Jones Company, at Dallas.

Link-Belt Promotes Bond and Dyson

Link-Belt Company, Chicago, announces that William W. Bond has been appointed western sales manager of the positive drive division, with headquarters at the Dodge plant in Indianapolis, to succeed G. Howard Burkholder, deceased. Bond has been in the company's employ since 1911, first serving in the engineering department at the Philadelphia plant. For the last 15 years he has been engaged in the sale of roller chain drives.

Coincidentally with Bond's promotion, Ralph S. Dyson, for many years manager of stock silent and roller chain drives through distributors, will also head up roller chain sales to duplicate machinery manufacturers. Dyson entered the company employ in 1899.

Spang Chalfant Has New Continuous Process Pipe

Spang Chalfant, Incorporated, Pittsburgh, recently started making what it refers to as C-P buttweld pipe by a patented process embodying continuous welding and continuous production for small pipe.

In the procedure strip skelp stock, rolled up in reels very much in the same manner as overgrown steel measuring tape would be, is weighed by reels prior to mounting a reel at a time on an axle for unwinding. Skelp is fed from the reel to a straightening machine to remove the bending tendency accumulated while it was reeled up. After it has gone through the straightener, it is immediately followed by another long strip of skelp, and the two flat pieces are welded end to end. Then another piece follows and is welded to the first two, and so on, ad infinitum. The continuous flat strip is then fed into a flash trimmer and on through the pinch rolls. Thence it travels onto an elongated skelp loop table, reversing its path at the far end of the table and heading back in a parallel course to enter a continuous natural gas heating furnace electrically controlled by Westinghouse instruments. Emerging from the far end of the furnace the skelp enters the forming and welding rolls where it is shaped into pipe and welded. Then it travels to an automatic saw cut-off and is cut into uniform lengths. Other operations in the continuous process involve descaling, hydrostatically testing, threading, and finishing.

By the above process Spang Chalfant, Incorporated, is making pipe ranging from ½-inch diameter to 3-inch.

Hewitt Rubber Corporation Makes Official Changes

Joseph H. Hayden, secretary of the Hewitt Rubber Corporation, Buffalo, has been elected a member of the board of directors of the company. William S. Carleton of New York and Lester D. Bigelow of Chicago, have been elected vice presidents.

Hayden has been associated with the company for 21 years and has served as secretary since 1935.

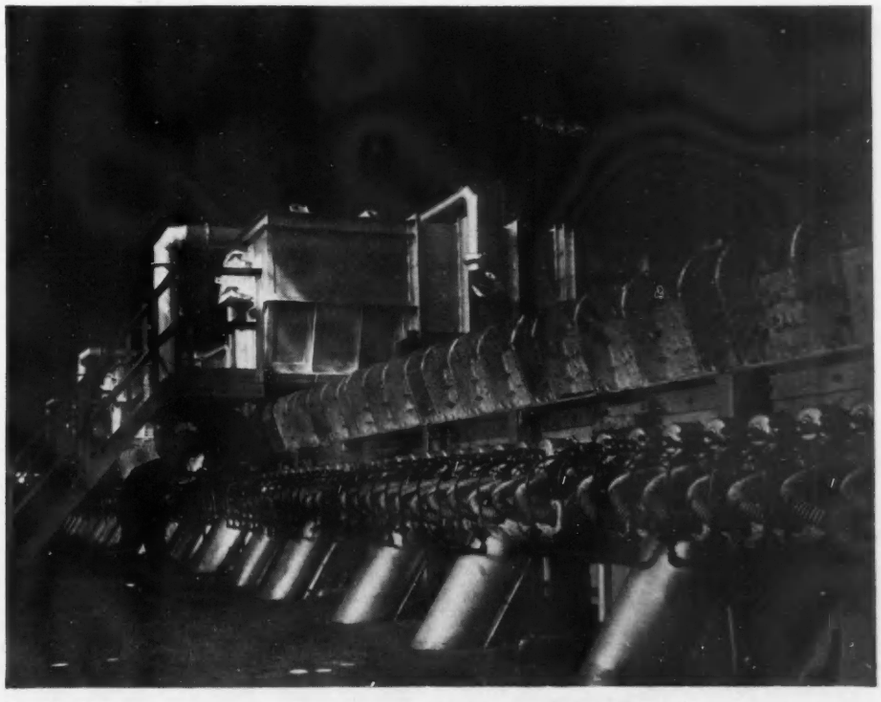
Carleton has been manager of Hewitt's Eastern Division with headquarters in New York since 1928, having previously been in charge of sales in New England. He has served with the company for 18 years.

Bigelow has been manager of the company's Western Division with headquarters in Chicago since 1933. He joined the organization in 1932.

Axelson Manufacturing Company Holds Sales Meetings

Sales plans and promotional strategy were the topics at an all-day sales meeting held by California sales representatives of Axelson Manufacturing Company at the Los Angeles plant recently. Particular stress was laid on closer tie-in with publication and direct mail advertising, which, incidentally, was awarded first place at the P.A.C.A. convention in Los Angeles in June.

J. C. Axelson, president of the company, in explaining recent developments said, "Axelson has always endeavored to prepare information on our products in such a way that it will be of



Gas-fired burners spaced along the side of the heating chamber of the furnace in the new Spang Chalfant pipe mill heats the continuous strip as it moves through at 300 feet per minute. Furnace is 116 feet long and has 274 burners.

Standco
NO-SMOKE
STANDCO BRAKE LINING
Nothing novel—no bunk—but it gets the job done without scoring brake rims. See page 1940, Composite Catalog.
Standard Brake Lining Co.

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Specializing in the manufacture of High Quality
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Prompt, Efficient Service to
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Analyses of oil field brines, cores, gas, oil, and minerals. Field gas testing. R. H. Fash, Vice-President; Long distance 138. 828½ Monroe Street, Fort Worth, Texas.

This is ECOLITE 50S

Available at Supply Stores
A SAFE ELECTRIC LANTERN WITH A POWERFUL LONG SPOT
No other lantern answers the need of Pipe Line Men, Gaugers and Pumpers as does Ecolite 50S. It's easy to carry and use. Throws a very bright beam—is perfectly safe in presence of inflammable gases and vapors and comes recommended by Underwriters' Laboratories.

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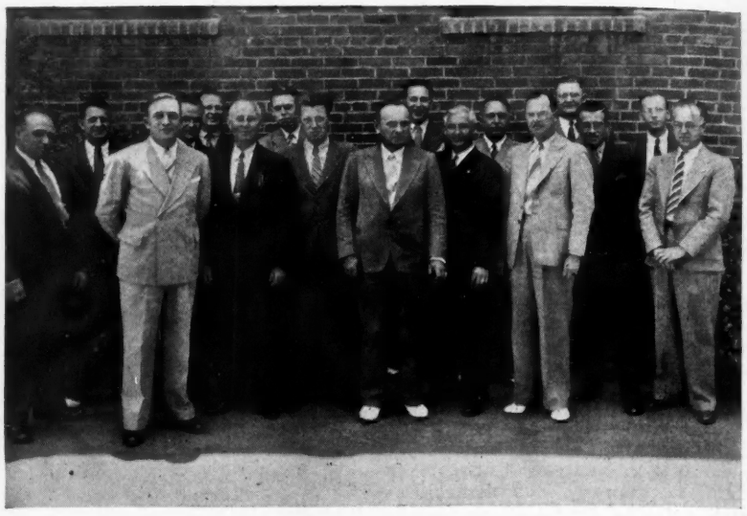

Members of the Axelson Manufacturing Company California sales organization met at Los Angeles to map plans for the remainder of 1938. From left to right: K. S. Ramey, W. H. Getsinger, M. R. Conger, P. E. Humphreys, H. F. Donley, W. H. Jackson, W. F. Goertz, E. F. Green, E. J. Phillips, C. E. Rose, A. G. Haglund, A. Zwerneman, C. J. Huyck, H. S. Kelley, S. Morrish, E. W. Ostrom, and R. M. Humphreys.

genuine interest and information to purchasing agents, engineers and oil field superintendents. I feel that in the new series of bulletins just issued we have carried this accepted policy a step forward. Our board of directors is pleased with the way in which sales have held up during the first half of this year, and anticipate steadily improving conditions during the last six-month period."

R. W. Walters Joins Bridgeport Machine Company

R. W. Walters, one of the old timers in the supply industry has resigned as Kansas district manager for Lucey Products Corporation to accept a position as superintendent of sales with The Bridgeport Machine Company. He will maintain headquarters in the company's general offices at Wichita, Kansas, devoting his time to Bridgeport drilling and production equipment business in the new Illinois Basin fields and with active operators in the Mid-Continent and Gulf Coast sections. Walters started in the oil business as a tool dresser in the old Illinois fields, coming to the Mid-Continent during the Augusta boom to enter the supply business. Formerly sales manager of The Bridgeport Machine Company, he has been active in supply circles for many years.

R. W. WALTERS
Pushing Bridgeport in Illinois

FOR SALE—1936 four-place Stinson Cabin Plane, powered by Lycoming Motor, with Smith Controllable Propeller. Complete primary instruments, cactus-proof inner tubes. Two-way radio. Splendid condition and never injured or cracked up. Inquire Baker Oil Tools, Inc., P. O. Box 3048, Houston, Texas, or P. O. Box 71, Huntington Park, California.

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B. M. (SKIP) SCIVALLY, Manager
- Complete Stock of Fishing Tools for any emergency.
- Experienced operators available at all hours.

1429 E. Broad St. - Phone 2904-2856
LAKE CHARLES, LA.

Squeaks from the Bull Wheel

Not Literal

The teacher was explaining how certain words and phrases could not be taken with a literal meaning.

"For instance," she said, "if a man says 'I will paddle my own canoe,' he doesn't really mean that he has a canoe or that he is to paddle it. He just means that he will carry on without help.

"Now, can anyone give me another example of a phrase that means something different from what it says?"

"Yes, miss, 'I have been detained late at the office, dear'."

Relative Values

"Sir," said the beggar, "will you kindly help a poor man. I have no bed, no bread, no work, nothing."

"If you had told me that you had a bed to sleep in, but wouldn't dream of sleeping in it; that you had work to do—yet no idea of doing it—bread to eat but disdained it for truffles, I should have given you a five dollar bill. As it is, you are depressingly normal. Here is a quarter."

Got His Goat

Angry Man: "Why did you tax me $8.00 for my goat?"

Tax Adjuster: "Well, keep him out of the street. The law says, 'For private possessions bounding and a-butting on public property, $2.00 a running foot'."

Solid Plates

"Some upper classman was just telling me that we are to have a new concrete stadium next fall."

"Yes, the alumni have at last decided to use their heads."

Seasonal

Swaying slightly, he halted in front of an enormous stuffed tarpon in a glass case.

He stared at it for a minute or two in silence. Then he said: "The fella who caught—hic—that fish is a—hic—liar."

Style Note

"I see where a Chicago man proposes that a badge be given every person who pays all of his taxes promptly."

"Huh! A barrel would be more appropriate."

Fair Offer

Suitor: "I would like to marry your daughter."

Business Man: "Well, sir, you can leave your name and address, and if nothing better turns up, we can notify you."

To Be Exact

A big scientist mentioned somethin' about the Ozark Mountains bein' fifteen billion years old. Aunt Pudey spoke up and says: "I beg your pardon, Professor, the Ozark Mountains are fifteen billion and twenty-six years old."

The scientist was surprised that she could have such accurate knowledge and he says: "How do you arrive at those figures?"

Aunt Pudey says: "Well, it was twenty-six years ago when I was going to school that I read they were fifteen billion years old then."

The Perfect Speech

The famous lecturer, who was noted for his humor, was invited to speak before a club that was confined strictly to men who had done something in the arts, no matter how mediocre, with the usual 90 percent fourflusher membership. When informed of this the lecturer's speech ran as follows:

"Gentlemen, it is just a year ago tonight that I started on my lecture tour. My audience on that occasion was composed of men like you: men who had done something in the world, men whose names would go down to posterity. And when they were spoken of would conjure up memories of things done and deeds accomplished. Men who—"

The lecturer continued on in this strain for some while while the members beamed happily and patted each other on the back.

Then he concluded:

"That first audience was in a penitentiary but they were expiating their crimes. I'm afraid there's no hope for you, gentlemen."

Quick

"You say you can recommend this hair restorer?"

"Yes, sir. I know a man who removed the cork from the bottle with his teeth, and within 24 hours he had a moustache."

Possession

"Listen to me, I'm sick and tired of hearing you talk about 'my car' and 'my furniture' and 'my son.' It's getting on my nerves and you're going to learn to say 'our.' What are you looking for now in that closet?"

"Our pants."

Last Straw

"Say, why doncha use the other straw too?"

"What for? I haven't emptied this one yet."

Conclusions

The young bachelor was asked which he thought were happier, people who were married or people who were not.

"Well, I don't know," he replied, "sometimes I think there is as many as is that ain't, as ain't that is."

Dumb Trees

Sonny sat on the lower steps, his face resting in his two chubby hands.

"What's the matter, Sonny?"

"Nothin'—just thinkin'."

"What about?"

"Thinkin' how dumb trees are to take off their clothes in winter and put 'em on in summer."

Why wait longer to get ALL the oil?—when a MILLER will quickly and at small cost clean-out the sand and sediment holding back YOUR production.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

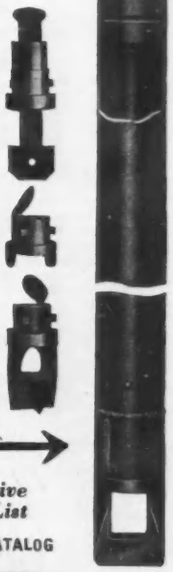
INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.



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See Page 1445 COMPOSITE CATALOG

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